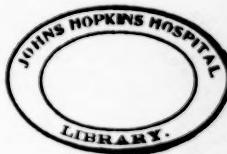


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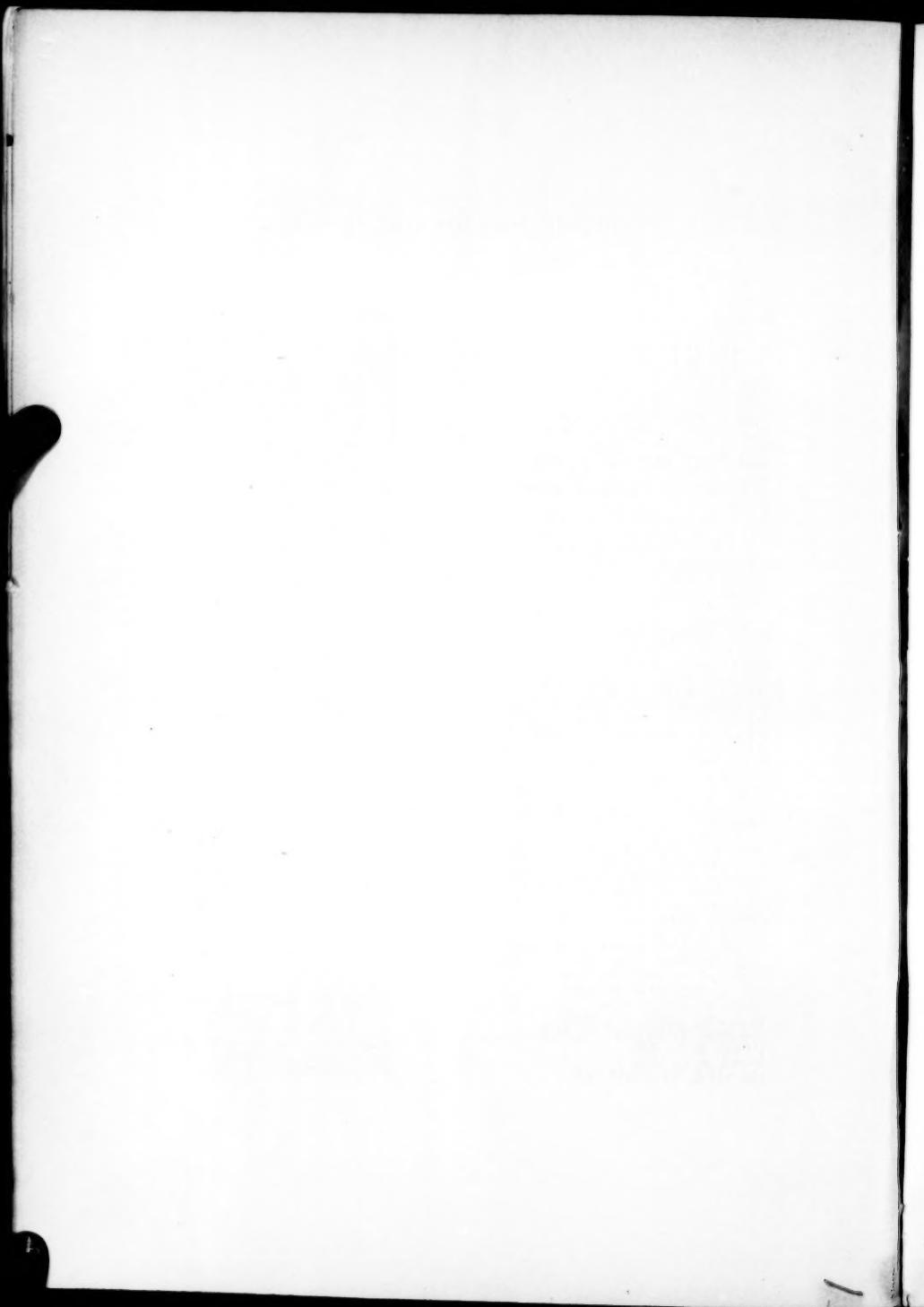
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Address.**THE BOSTON CITY HOSPITAL.¹**

BY CLARENCE J. BLAKE, M. D., BOSTON.

FORTY-ONE years ago, in Boston, with a population of one hundred and thirty-six thousand, the principal provision for the house care of the sick poor, other than that to be found in their own homes and in public institutions, was afforded by the Massachusetts General Hospital; the larger part of the out-patient service of the city being shared by it with the Boston Dispensary and, for special cases, the Massachusetts Charitable Eye and Ear Infirmary. At that time, in 1849, an epidemic of cholera made especial call upon the hospital resources of the city, and stimulated the demand for more accommodation of this kind; the project for the establishment of a City Hospital first took shape, was earnestly favored by the principal physicians in the town, one of whom wisely suggested the reservation of city land for that purpose, and there was prospect for speedy realization, but, the cholera subsided, the necessary order passed by the Board of Aldermen was lost in the Common Council and the hospital without its reserved land to build even a hope upon existed only as a purpose in the minds of those of the medical profession who, working among the sick poor, best appreciated the need existing and to come. This purpose found its voice again in 1856, when the medical profession and the officers of charitable institutions, uniting, urged upon the public in various ways and upon the Council of 1857, through the earnest advocacy of the then Mayor, Hon. Alexander H. Rice, the importance of establishing a hospital which should be at the service of the inhabitants and under the control of the government of the city, but the objection made by certain citizens to the use, as was proposed, of the Lying-in Hospital in Springfield Street again blocked the way, and it was not until 1860 that the land at present so fully and usefully occupied was appropriated for that purpose, and in the following year the foundations for the buildings, to consist of a central structure, two wings or pavilions, and in the rear of the centre the necessary boiler and engine rooms and laundry, were begun.

In May, 1864, the hospital was first opened for the reception of patients, one of the pavilions being devoted to medical and the other to surgical cases, the house-officers, resident graduates as they were called, two in each department, dividing the service between them by an imaginary line, running the length of each pavilion from top to bottom, the single rooms in the basements being used as examination and accident rooms and for isolating purposes.

The conditions of that first year's service as necessarily imposed upon the visiting staff were most onerous, a new building, inexperienced house-officers and untrained nurses, a lack of definition of the authority of the staff, which had to insist, in a building still in part in progress of construction and not yet fully in running order, upon the "benefit to the patient" as the primal object of its existence; these made a combination of difficulties met and overcome with a patient persistence which laid the foundation of the present success of the hospital as a medical institution.²

¹ Read at the Annual Meeting of the Boston City Hospital Club, June 10, 1884.

² The visiting and resident staff, 1864:

Visiting physicians. † W. W. Morland, M.D.; Fitch Edw. Oliver,

The first hospital year was of but seven months duration, and within that time there were 475 patients admitted, 129 accident cases received and 271 outpatients treated; in the next year, 1865, there were 1,066 patients admitted, 242 accidents and 1,143 outpatients; in 1875, 3,424 admitted, 756 accidents and 8,732 out-patients; in 1885, 4,031 admitted, 676 accidents and 12,005 out-patients; while, in the year just ended, there were 6,157 patients admitted to the house, 888 accident cases received and 13,605 people treated as out-patients.

A review of the table in the comprehensive and verbal report of the superintendent,³ from which these figures are taken, shows that while the increase in house-patients has proceeded at a fairly steady pace, the number of out-patients was less by 636 than in 1884, eighteen years only after the opening of the outpatient department.

A consideration of the growth of the buildings of the City Hospital during the past twenty-five years will serve to explain this apparent discrepancy. Beginning in 1864 with the central buildings and wings, which had been expected to afford ample provision for at least a decade to come, in 1872, eight years later, the justifiable demand upon the hospital was so great that, in addition to the beds provided for small pox patients in buildings on the water side of Albany street, beds were placed in the private rooms and in every other available spot to the extent of fifty more than the original provision. The dangers of an overcrowded hospital were fully appreciated by the visiting staff, now increased in numbers, and in their report of that year they set forth the need of more ward room for both medical and surgical cases, adequate reception rooms for accident and for lying-in cases, and the substitution of a suitable operating amphitheatre for that which, situated in the dome of the rotunda and necessitating lengthy transportation of patients, had sufficiently demonstrated its unfitness in the surgical experience of the first year. In 1873-74, a medical superintendent having been in the meantime appointed, the overcrowded condition of the hospital was again reported and the especial need of better surgical

accommodation in the out-patient department as well as in the house was urged, and was met by an appropriation (\$190,000), made by the City Council in that year for the "enlargement or extension of the buildings," the result being the addition of two main buildings for medical and surgical cases respectively, two one-story buildings and a kitchen building, the whole giving an increase in house accommodation of eighty-five beds. In the same year the drainage, plumbing and ventilation were thoroughly overhauled, and the single rooms in the basements of the pavilions, half underground, were abandoned as wards, for obvious sanitary reasons.

At the beginning of its second decade, therefore, the hospital had five new buildings, a considerable increase in its accommodations in the house, and a proportionate enlargement of its working staff, there

M.D.; J. Baxter Upham, M.D.; J. N. Borland, M.D.; J. G. Blake, M.D.; John P. Reynolds, M.D.

Visiting Surgeons: † C. E. Stedman, M.D.; † G. E. Buckingham, M.D.; † M. D. Tracy, Jr., M.D.; † Charles D. Homans, M.D.; Algernon Coolidge, M.D.; David W. Choever, M.D.

Resident graduates. Medical: † John Dole, M.D.; Clarence J. Blake, Surgical: M. F. Gavin, M.D.; D. F. Lincoln, M.D.

Ophthalmic Surgeon: Henry W. Williams, M.D.; Administering Physician: Dr. W. W. Morland; Physician: Charles W. Swan, M.D.; Ophthalmic Externe, Edw. G. Loring, M.D.

Those with the dagger (†) prefixed have since died.

³ Twenty-sixth Annual Report, Boston City Hospital.

being ten out-patient surgeons and physicians and thirteen house-officers, five of that number acting as externes.

In 1878 the work of overhauling the old pavilions and correcting the defects in arrangement was fairly completed, and another step had been taken in the development of the hospital upon a scientific basis in the establishment of the training-school for nurses which, in addition to the public benefit afforded by it outside of its own walls, has served to provide efficiently for one of the most important needs in the successful conduct of a hospital.

At the end of the first year there were in the hospital three head-nurses, graduates of the training-school, nine other head-nurses in charge of wards, twenty-seven assistant or pupil nurses and eight others not belonging to the school. The number of graduates the first year of the school was six and in 1889 twenty-eight. The number of nurses employed to-day in the hospital work is seventy-seven.

In 1879 the reservation of additional land was advised; in 1880 the need of a separate building as a home for the increasing staff of nurses was recommended and the ambulance system, improved in previous years, was well established.

At the end of its second decade the hospital, while enlarged, as has been said in its main departments, had only the same accommodations for contagious cases as that provided in 1866, seventeen years before; the population of the city had in the same time increased over fifty per cent., and the nurses, crowded out by the demands for room for patients, were most inadequately lodged, and the out-patient department equally cramped for want of room, now numbered eight services and received over 40,000 visits per annum. In 1886 the house capacity had been increased to 425 beds, and in the annual report for that year it was shown that over 44,000 out-patient visits had been received and treatment given in a building, which was justly stigmatized, because of its want of accommodation, as "a great blemish and the most disagreeable feature of the hospital establishment"; on the other hand, the nurses' home had been in the meantime completed and was giving satisfactory evidence of its usefulness, and the new contagious wards which were completed two years later were projected.⁴

As it stands to-day, the City Hospital has nine large buildings devoted to the accommodation of patients, and additional buildings for administration, cooking, heating, and otherwise providing for the maintenance of the medical service, two out-patient buildings and a nurses' home, it has 480 beds for patients and these are usually full, it has, in addition to its large amphitheatre, smaller operating rooms in connection with wards in certain special departments of its house service;⁵ its new out-patient building is admirably equipped in all respects. There is a visiting and consulting medical and surgical staff, numbering twenty-four members, an out-patient staff of twenty-five, and a staff of house-officers which will be increased after July 1st next, to twenty-two; fifteen internes and seven externes.

While all of this growth has had in view the primal object of such an institution, in the relief of human suffering, that other and equally essential duty of a

⁴ During the past year 210 cases of diphtheria and 88 of scarlatina were treated in these wards.

⁵ The number of surgical operations in 1864 was 464; during the last year, 1,116.

hospital, the furthering of medical education has been kept in mind. In the very first rules and regulations, this function is recognized in the clause setting forth the conditions under which students may be admitted, and the provisions made for this purpose and the opportunities afforded for clinical instruction in the present City Hospital make it, in this respect, the equal of any hospital in this country, so far as I am aware. It has all the material and nearly all the provisions of a great educational institution, and the spirit of progress is shown in the further improvements already in contemplation, which include provision for discharged convalescents, the still more exact isolation of and provision for contagious cases and for the study of such diseases as may come under this head, and the erection of a fireproof building for the preservation of the clinical records, which already make a substantial library of over eight hundred manuscript volumes, containing the detailed records of more than one hundred thousand cases. As a supplementary library the morgue and autopsy room furnish already thirteen volumes of records of autopsies, of which the average during the past winter was sixteen month, in addition to medico-legal examination.

In relation to the use of selected material for instruction, the City Hospital affords, therefore, not only in its large number of house cases⁶ and its valuable records, but also in its new out-patient buildings, where arrangement is made for the accommodation of student as well as patient,⁷ an opportunity which is individually sufficient for a most thorough and complete system of clinical instruction.

Original Articles.

DISORDERS OF SLEEP: INSOMNIA.¹

BY CHAS F. FOLSON, M.D., CO-REFEREE,
Visiting Physician to the Boston City Hospital.

In studying the disorders of sleep I have confined myself to insomnia, partly because of the inherent difficulties and extent of the subject; partly as my material is so crude and undigested as regards the more abstruse phenomena, that I have left them to the wider experience of our referee, who, as Schiller said of Goethe, need only shake the limbs to have the mature fruit of a ripe knowledge fall in abundance. I find that nearly every physiologist has attempted some theory of sleep, without adding materially to our knowledge why or how we sleep, although the result has been to indicate many of the phenomena which occur while we sleep. Duval calls the suspension of cerebral activity in sleep a function of the brain — the passive condition following the active as regularly as an interval of rest succeeds the heartbeats. Lasègue speaks of the appetite for sleep,

¹ A paper read at the meeting of the Association of American Physicians, Washington, May, 1890.

² For purpose of comparison may be mentioned the in-patient service of the following hospitals connected with medical schools: New York Polyclinic, 40 beds; New York Post-Graduate Hospital, 100 beds; New York Eye and Ear, 100 beds; Long Island College Hospital, 150 beds; Jefferson Medical College Hospital, 125 beds; University of Pennsylvania Hospital, 139 beds.

³ The number of out-patients (new cases) treated last year were: medical, 3,133; surgical, 5,825; diseases of eye, 1,642; diseases of ear, 935; diseases of skin, 933; diseases of women, 577; diseases of nervous system, 338; diseases of throat, 644.

which others liken to hunger and thirst. We certainly explain nothing if we say that drowsiness arises from exhaustion of the activity of the brain cells, or, with Landois, that sleep is due to the using up of the potential energy, especially in the central nervous system, making restoration of energy necessary. Nor do we go much farther in speculating on the existence of a sleep-centre in the brain. The chemical theory of Obersteiner and Preyer, that the acid waste-products produced by the activity of the brain finally reach a degree sufficient to arrest it, and thereby cause sleep until their elimination, is only less satisfactory than Pflüger's view, based upon experiments by Pettenkofer and Voit, and the oxygen hypothesis. The lessened amount of blood in the brain during sleep, as shown by the plethysmograph and otherwise, like the slowed pulse and respiration, cannot be held to be an antecedent cause of sleep, and the increased alkalinity of the blood from greater proportionate elimination of carbonic acid naturally explains nothing in that direction.

What happens in the brain when we sleep is described from a psychological point of view by Mercier,² following Huglin Jackson and Herbert Spencer, as follows: The molecules that were shifted into new positions are still oscillating from the shock. Those that were only slightly disturbed are returning to their original positions; those that were profoundly moved are settling in their new places, presenting more stable attitudes to the action of surrounding forces. Regions that perhaps after long repose were disturbed in the day still continue to emit a mild reverberation of their discharge, and the passage of currents at random through the highest regions under the sole influence of irregularities of pressure, and without guidance from external impressions, has its mental counterpart in the phenomena of dreams.

On the pathology or psychology of wakefulness, I have nothing with which I feel justified in taking the time of the Association. Indeed, the subject in general is difficult of concise treatment or scientific arrangement, and analysis of cases proves unsatisfactory. An examination of my records indicates the following causes or conditions of insomnia, each one of which might be easily expanded into an essay by itself:

(1) The perverse habit of sleeplessness, a result of years, perhaps generations, of misuse of body and brain, I hardly need mention; and scarcely more the habits formed to induce sleep, as regards light and darkness, noise or stillness, idiosyncrasies of position, temperature, etc. These people always are amazed to see how much can be done to form the habit of sleep; what fair sleepers they may finally become by the proper kind of training.

(2) Insomnia from external causes, through the various senses, excluding habit, naturally includes the obvious natural sensations of heat, cold, pain, hunger, light, noise, etc.

(3) Excessive intellectual or emotional activity, including strain, excitement—pleasurable or distressing—grief, fear, worry, anxiety, etc., if sufficiently intense or prolonged. Naturally, as elsewhere, excess is only a relative term in different individuals, or in the same individual under different conditions. With the forced overaction of the brain the nervous discharge, as time goes on, requires greater stimulation until such a degree of exhaustion and instability is

produced that any natural function, even rest or sleep, for a time becomes fragmentary, insufficient, or almost impossible.

(4) Of the reflex causes of insomnia, indigestion, gastric or intestinal, is by far the most common, and it may fail to be indicated in any of the usual ways. As in persistent headache, a cause may be discovered only after repeated experiment in withdrawing one article of food after another, until the offending one is found. Genito-urinary and pelvic disorders come next, with unlimited possibilities thereafter.

(5) The traumatic antecedents of insomnia are purely physical, from a sudden fall or blow, for instance; psychical, as in violent mental shock; or both, such as occurs in railroad accidents, etc. In these cases there is evidently a wide difference in the degree of injury to the brain. The impression may be transient and resulting in restoration to healthy function. It may consist, in almost any degree, slight or great, of disarranging, decomposing, decomposing of cerebral molecules and cells, possibly of association-tracts, sometimes resulting, as Westphal held, in minute patches of sclerosis.

(6) The auto-toxic sources of insomnia in acute diseases need only bare mention; in chronic disease, gout, lithæmia, rheumatism, tuberculosis, syphilis, malaria, leukemia, and chronic nephritis, there is a similar cause independent of any cerebral exhaustion or impaired nutrition which may be produced by them. Probably much at least of the sleeplessness from habitual constipation belongs in this category. I have often found persistent wakefulness an early symptom of some general disease, especially acute rheumatism and arterio-sclerosis, many months before an absolute diagnosis became possible.

The habitual excessive use of tea, coffee, tobacco, alcohol, morphia, chloral-hydrate, bromides, cocaine, or other drugs, is a fruitful toxic source of insomnia. Chronic poisoning from arsenic and from lead, perhaps often by leading to vaso-motor disorders, degenerative disease, and arterio-sclerosis, without the usual symptoms, must not be overlooked.

(7) Exhaustion from wasting diseases and enfeebling conditions, pulmonary consumption, anæmia, starving, profuse and repeated hemorrhages, sexual excesses, impaired nutrition of the brain from either deteriorated quality or diminished quantity of its blood-supply.

(8) Of vascular origin, from hepatic disease, producing venous stasis, from cardiac and renal diseases with increased vascular tension, from asthma and hypertrophied or dilated heart, producing cerebral hyperemia, anæmia or venous engorgement, from arterio-sclerosis, especially that of old age. Exaggerated or insufficient blood-supply to the brain, venous stasis, increased vascular tension, may also arise from syphilitic disease of the bloodvessels, or from disorders of digestion or of the portal system, and be as fertile a source of insomnia as the disturbances in the circulation in women at the menopause and other critical periods in life, including puberty, pregnancy, childbirth and lactation. Here also there may be disordered innervation, as well as disturbed vascular tension and, perhaps, nutrition, such as we often see in less degree during menstruation.

(9) *Vaso-motor.*—In that marvel of scientific research and profound medical knowledge, Meynert's *Erkrankungen des Vorderhirns*, the author repeats a statement previously made by him, that the nutrition

²The Nervous System and Brain, p. 374.

and the *Erregbarkeitsverhältnisse* of the brain depend upon its relative weight, as compared with the weight of the heart. The blood-pressure, however, is naturally not governed solely by the heart and cardiac innervation, but by the resistance which the cerebral capillary vessels offer by virtue of their vaso-constrictor nerves, thus bringing in the higher automatic vaso-motor centres of the cortex, which are subject also to psychical influences, and the reflex vaso-motor centres in the pons and medulla as well as the associations-tracts, the reflex vaso-motor centres of the spinal cord acting only coördinately or subordinately.

This field of study is too broad to be entered upon understandingly in the present state of our knowledge. That vaso-motor paresis constitutes an important feature of the prodromal period of diffuse cortical encephalitis, and probably of other organic disease, as well as in the neuritis of lead and arsenic, must, I think, be admitted. The theory that there is a disease which is essentially of the cerebral vaso-motor centres, involving, perhaps, the associations-tracts and the spinal reflex centres, is one in favor of which much can be said, especially where the symptoms appear rather abruptly in people in otherwise good health, without marked emotional or other exhaustive antecedents, and where the least mental or physical effort produces marked cerebral and spinal hyperæmia. How far vaso-dilator nerves act in such cases is a matter of doubt, the transient or more or less persistent anaemia and hyperæmia of the brain and cord being explained by excess of functional activity or inhibition of function in the vaso-motor centres.

(10) The neurasthenic condition, in exalting the direct and reflex excitability of the nervous system, naturally intensifies the usual causes and conditions of insomnia, the unusual sources of insomnia in neurasthenia, in my experience, being astigmatism and hallucinations of sight or hearing. The eye-strain from astigmatism is often in health unnoticed, when in states of debility it produces headache, dizziness, spasmodic muscular action, or wakefulness.

An hallucination of sight occurring a single time is not uncommon in people in reasonably good health. Frequently repeated, such hallucinations are less rare than is supposed without any indications of mental or other disease. Occasionally, like flashes of light, they are precursors of headache. I have observed frequent hallucinations of hearing only once, independent of insanity.

If of distressing nature hallucinations of sight and hearing may be a fruitful source of insomnia. They occur beyond the power of the will of the individual to call them up, although sometimes able, under some conditions, to cause them to disappear. The hallucinations of sight constitute new arrangements of mental impressions which can be more or less clearly recollected, or they form combinations which seem entirely new. Once I have found two sisters subject to them, and once two sisters, a cousin, and a common grandmother — curiously enough, the different members of the families not knowing each other's peculiarities, which, however, were quite different in kind, until I began my investigations. They had thought them uncanny, and had concealed them.

(11) The neuropathic temperament, usually by inherited predisposition, but which may be acquired. In its pronounced form it is closely allied to the well-marked functional diseases of the nervous system, and

at the critical periods of life, may readily develop into them. It is congenital, or due to early interference with the normal development of the brain, to faulty training, and to bad habits of living. It shows itself in infancy and childhood by irregular or disturbed sleep, irritability, apprehension, strange ideas, great sensitiveness to external impressions, disagreeable dreams and visions, romancing, intense feeling, periodic headache, muscular twichings. There are often excessive shyness, introspection and self-consciousness, or extreme self-assertion or conceit. The imitative and imaginative faculties may be quick, the emotions strong, the affections intense or almost absent. The natural feelings easily become disturbed and perverted. The passions are unduly a force in the character, which is commonly said to lack will-power. Self-discipline is a mighty task, and self-control is acquired only with great difficulty. The memory is now and then phenomenal. There is a ready reaction to external circumstances, even to the weather, by which the individuals become easily a little exhilarated or somewhat depressed. They are apt to be self-absorbed, and may be suspicious, or morbidly conscientious. Slight physical ailments, hardly noticed or rapidly recovered from in sound constitutions, leave on them a long or lasting impression. They readily become neurasthenic, hypochondriacal, or nervous invalids, so called, and they break rules or disregard established customs with less cause or provocation than other persons. They lack stability, or have in special directions narrowed limitations of intellectual energy, in quality or quantity. To the nervous temperament there may belong social and intellectual gifts and graces, originality, intensity, poetry, art, philanthropy. Adjusting skill, the ability to adjust their organism to their environment, to use Herbert Spencer's phrase, is often lacking.

Many of these people have the marks of Morel's *dégénérés* with few compensations; many illustrate that marvellous law of compensation in nature for defect in one direction by accomplishment in another. Often not only they, but generations before them, have been crammed mentally and emotionally but starved in other ways, their very abstemiousness producing a tough asceticism, requiring decades before the final but sure physical deterioration, or there may be a gouty diathesis and the two somewhat opposite temperaments or perhaps constitutions may be combined by intermarriage. They fail to store up nervous energy; they are unable to inhibit the free or excessive or explosive discharge of it in response to inconsequent excitations, and they are constantly in the position of having expended more than their reserve nervous force. From the prominence in adult life of the unstable emotional centres which predominate in childhood, they are most difficult to treat. Most of them are insomniacs, more or less, to quote one of the most gifted and graceful of them. We can no more relieve them of all their symptoms than we can add a cubit to their stature. But there are none in the community for whom we can do more, as there are none to whom alluring promises, including mind-cure, faith-cure, hypnotism, etc., are more seductive.

(12) Wakefulness is one of the most difficult symptoms to treat in the various stages of many forms of mental disease, and it is doubtless only an early symptom in many cases where it had been regarded as a cause. In hysteria, hypochondria, and organic dis-

eases of the spinal cord and brain, including haemorrhage, embolism and thrombosis, insomnia often taxes our utmost resources.

(13) As a form of insanity — that is, as an interchangeable psycho-neurosis in families predisposed to mental disease — insomnia is not very uncommon, especially among Morel's *dégénérescences*. In such case it is persistent for months or years, is attended with great mental and physical exhaustion from slight effort, and is most intractable to treatment. It usually ends in more or less permanent mental enfeeblement with impaired will-power and diminished self-control, perhaps without, but generally with, other psychical symptoms.³

In estimating the value of insomnia as a symptom — that is, in establishing a prognosis — it is chiefly in neurotic patients that we have great concern; and even in them it seems to me well to always bear in mind the distinction which Meynert draws between the large number *Zur Krankheit Berufenen* and the much smaller number of those *Zur Krankheit Erwählten*.

The one organ, excluding organic disease, upon the functional health of which I place the first dependence in prognosis, is the stomach.

There are certain obvious indications in the treatment of insomnia, to amend bad habits, which may mean the errors of a lifetime; to relieve painful impressions through any of the external senses; to remove depressing mental influences; to cease over-work; to interrogate every function and organ of the body; to correct constipation, faults of digestion, whether gastric or intestinal, oxaluria, etc.; to forbid unsuitable articles of food and drink; to meet the indications of toxic influences in acute and chronic disease, from the abuse of tea, coffee, tobacco, alcohol, opiates, chloral, bromides, cocaine, or in poisoning from lead, arsenic, and other sources; to stop excesses and build up conditions of exhaustion and anaemia; to control as far as possible the vascular disturbances in hepatic, renal and cardiac diseases, using leeches as needed in venous engorgement or congestive conditions.

Further than this and treating symptoms, our measures must be largely restorative — so little do we know of sleep and sleeplessness or understand the pathology of the nervous system and its cells with their molecules estimated to contain each nearly a thousand atoms grouped together in small and large clusters, which are again united into larger more or less complex groups.

The amount of sleep needed either in health or disease and the injury from loss of sleep, vary so widely in different persons that naturally there can be no fixed rule for therapeutic interference. Generally speaking, the temptation is to resort to medical treatment too readily, and to be too much afraid of a few sleepless nights. In some individuals and in some families, a wakeful week, with little sleep each night, is not a matter for concern, as compared with acquiring the habit of depending upon narcotics; in others the use of sedatives, even for a long time, is attended with good results.

³ If this classification is unsatisfactory, the latest attempted on a scientific basis does not better meet the case, stated by Germain-Sé and Gilles de la Tourette: (1) L'insomnie digestive; (2) L'insomnie cardiaque et dyspeptique; (3) L'insomnie cérébro-spastique, neurosique, comprenant les lésions de l'encéphale, la paralysie générale, les manies aiguës et chroniques, l'hystérie, l'hypocondrie; (5) Les insomnies psychiques (émotives, passionnelles et sexuelles); (6) L'insomnie psychogène, et les crises; (7) L'insomnie hystérique; (8) L'insomnie fébrile, infectieuse, autotoxique; (9) L'insomnie toxique (café, thé, alcool).

The hygiene of sleep includes the most minute attention to the whole environment of the patient, position, change of room or of locality, temperature of the body and of the air, diet, digestion, secretions, excretions, fresh air, soothing sounds or manipulations, rest and exercise accurately adjusted to the needs of the system, presence or absence of noise, relief from sources of irritation. When certain areas of the brain are over-stimulated to exhaustion with wakefulness, the exercise of other parts, diverting the attention by pleasant conversation or fixing it upon a new subject, a short walk in the open air, gymnastics, an agreeable novel, a light supper, koumyns, matzoos, malt or cautiously used wine, beer, ale, porter, spirits, are expedients which are useful, some to one, and others to another wakeful person. Change of climate, scene and association, travelling, or, better, camp-life, especially in the mountains, a sea-voyage, or a wisely selected hydro-pathic establishment will often avail. Mountain air has seemed to me best where there is increased vascular tension or diminished vaso-motor control, especially in those cases where sea-bathing, tonics, and alcohol disagree. The sea-level and a humid atmosphere, in my experience, have been useful for the anæmic, the exhausted, and those with cardiac disease. Often the most suitable climate is best determined by trying one after another. We have the authority of Marcus Aurelius for the statement that Esculapius prescribed horse-back exercise. The outside of a horse has been said to be the best thing for the inside of a man. Under any and all circumstances I endeavor to get such patients into the open air, even when they are feeble, and into the air of the woods, or the sea, or the country, if possible.

The application of cold to the head, heat to the feet or abdomen, of galvanism, faradism, dry cupping, the Paquelin cautery, Chapman's ice-bags to the spine, or prolonged hot baths with or without cold affusion to the head, may be efficacious. Massage and the wet-pack are of the greatest value, and the treatment so properly identified with Dr. Weir Mitchell's name has made the only wise and efficient management possible for a large class, although, like all powerful remedies, capable of harm with unsuitable cases or in unskilled hands.

In neurasthenia and in conditions of unstable equilibrium, nervous or psychical, particularly where alcohol and most medicines fail or have some disagreeable after-effect, personal influence may outweigh all else; a teaspoonful of water taken with confidence becomes a hypnotic, and whatever develops or creates self-discipline and self-control in the patient is a remedy of no mean value. As Ruskin says, too, people think by infection, catching a passion like a cold. For these reasons the grotto of Lourdes, faith-cure, mind-cure, Christian science, spiritualism, hypnotism, have their devotees, and charlatancy may succeed where medical skill and experience fail. The physician's reputation or confidence in him, from experience, also go to make up no small part of the personal equation and the so-called moral treatment so long used with the insane has been, especially, in the hands of masters like Bell and Ray, an immense power.

I am not fully prepared to say that hypnotic suggestion cannot be used to advantage in some cases of insomnia. The evidence thus far inclines me to the opinion of Germain-Sé and Gilles de la Tourette, that the French Ministry of War is right in interdicting its use

by the army surgeons on the soldiers, on the ground of its tendency to do harm. To many in the community there may be no corresponding or compensating harm, to others the evil is great, from such a degree and kind of suspension of the higher cerebral activities — from losing their grip, so to speak — and one cannot yet fairly estimate its general effect on the community.

It is better, especially for people of the neuropathic temperament, to overdo, and, at times, to suffer some sleeplessness in consequence, than to sink into deeper and deeper inertia while striving to avoid every effort which brings discomfort with it, or after it, just as it is not always best to shut out every sound, even if disturbing to sleep. Many do best to bear a certain amount of wakefulness, as others must suffer pain, when our help awaits much in giving strength and courage.

Stimulating tonics, phosphoric acid, phosphates, hyphosphites, quinine, strychnine, iron may prove serviceable, but certain patients exhibit a marked intolerance of medicines and alcohol.

(*To be continued.*)

EIGHT CASES OF LARGE, PULSATING ARTERIES ON THE POSTERIOR WALL OF THE PHARYNX.¹

BY J. W. FARLOW, M.D., BOSTON.

In the *Boston Medical and Surgical Journal* of March 31, 1887, I reported five cases of visibly pulsating arteries of the pharynx, which I presumed to be abnormally large ascending pharyngeal arteries. Since then I have seen seven other cases, and Dr. F. I. Knight has kindly sent me the notes of a case in his own practice.

CASE I. Mrs. M., forty-seven years of age. Some chronic pharyngitis. A large, pulsating vessel seen on the posterior pharyngeal wall, where the posterior pillar of the fauces of the left side joins the pharynx. The vessel had an oblique direction.

CASE II. Mrs. D., thirty-five years of age. Pharyngeal membrane thin and atrophic. A large pulsating vessel on the right side of the pharynx.

CASE III. Mrs. C., fifty-one years of age. A large, pulsating vessel on the left side of the pharynx.

CASE IV. Mrs. W., thirty-eight years of age. Dry throat for two weeks. A pulsating vessel on each side of the pharynx, about half way between the uvula and the sides of the pharynx. The pulsation seemed not quite as strong as in the radial of the same patient.

CASE V. Mr. M., forty-eight years of age. Pharyngeal membrane thin. A good-sized pulsating vessel on the right side of the pharynx. This is the only instance I have seen in a male.

CASE VI. Girl, fourteen years of age, sent to me by Dr. E. D. Spear. There was marked hypertrophy of the glandular tissue of the pharynx and vault and a distinctly pulsating vessel was seen on the right side. Dr. Spear had wisely congratulated himself on having noticed this vessel, otherwise, a removal of the adenoid tissue might have given rise to an uncomfortable hemorrhage.

CASE VII. Mary F., aged seventeen years. Atrophic pharyngitis. A pulsating artery on the extreme right side of the pharynx.

¹ Read before the Boston Society for Medical Observation, May 5, 1890.

CASE VIII. Lady, sixty-eight years of age, was the case seen by Dr. Knight. In the pharynx he observed the marked pulsation of two arteries, one on each side and approaching to within about one-quarter of an inch of each other. The right was decidedly the larger.

In the *British Medical Journal* of September 17, 1887, Dr. E. Creswell Baber gave an account of a case that he had seen, where there was a pulsating artery of the pharynx.

It has seemed strange to me that so large a number of such cases should come to my notice. Possibly I have been, more than usual, on the look-out for them. I am inclined to think, however, that a thorough inspection of the sides of the pharynx will bring to light a greater number of instances than have been hitherto reported.

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

RECOGNITION OF BLOOD IN MEDICO-LEGAL INVESTIGATIONS.

FOR the extraction of blood-stains, Klein¹ recommends water saturated with carbon dioxide (Struve's process) as giving the best results. The stained spot is cut out, placed in a test-tube with two to three cubic centimetres of distilled water, and treated with a slow stream of carbon dioxide. Stains which are only a few hours old are usually completely extracted in five to ten minutes; those up to two weeks old require fifteen to twenty minutes; those up to one month, about thirty minutes and those six to eight weeks old, from thirty minutes to one hour. Whitish or yellowish masses of fibrin are left unaffected. The clear, yellowish or brownish colored solution thus obtained is examined spectroscopically. In the case of stains extracted immediately after drying, the two absorption-bands of oxyhemoglobin in the yellow and green portions of the spectrum are alone visible. If the spectrum is shaded up to the red, the methemoglobin band in the red is easily recognized. The intensity of the absorption-band in the red increases with the age of the stain, and in stains fourteen days to one month old it is nearly as intense as the bands in the yellow. Stains five or six months old give solutions in which the band in the red is, at times, the only one visible; and this was always the case in stains six to eight months old. Such old stains, after treatment with carbonic acid water for some hours, still leave behind a brownish-colored residue which, freed from adhering fluid by means of blotting-paper, gives up to glacial acetic acid or to ammonia after about ten minutes treatment a brown coloring matter whose acid solution in thick layers shows plainly the absorption-band of acid hematin. Both the ammoniacal and acetic acid solutions, when treated with ammonium sulphide and twenty per cent soda solution in slight excess, give the spectrum of reduced hematin.

Solutions of old blood-stains in carbonic-acid water, which have a reddish-brown color and show the methemoglobin band in the red, are immediately changed by treatment with an aqueous solution of hydrocyanic acid (1-2 drops of a 1-1,000 solution, or 12-15 drops of a 1-10,000 solution). The solution

¹ Zeitschrift für Analytische Chemie, 1889, page 389. Inaugural Dissertation, Dorpat, 1889.

has a reddish tinge and on spectroscopic examination only the bands in the yellow and green are visible; the methemoglobin band having disappeared. In place of this is a faint shading of the spectrum between the positions of the two oxyhemoglobin bands. Solutions of fresh blood-stains are apparently unchanged by hydrocyanic acid. The action of hydrocyanic acid possibly affords a means of determining the age of a given stain. For this purpose, the relative intensity of the absorption-bands in the red and green is determined; the band in the red is then obliterated by the action of hydrocyanic acid; the solution is then examined in a layer so thick that the violet end of the spectrum is shaded, when a conclusion may, perhaps, be drawn, in regard to the amount of unchanged oxyhemoglobin, from the intensity of the bands in the yellow and green portions of the spectrum. Solutions in carbonic-acid water which show the absorption-bands of oxyhemoglobin give, on careful treatment with ammonium sulphide, the spectrum of reduced hemoglobin. If this solution is shaken with air the oxyhemoglobin bands again appear. Finally, if a few drops of soda solution are added, the spectrum of reduced haematin is obtained.

If the stain cannot be removed by scraping, one can, after the spectroscopic examination, precipitate a small portion of the carbonic-acid solution with suitable reagents; for example, chloral hydrate, zinc acetate or tannin, and employ the precipitate for the production of haemin crystals. The author has made a special investigation of the process recommended by Ferry de la Bellone.² The carbonic-acid solutions gave immediately, upon the addition of chloral solution, a rose-colored turbidity and later a similar rose-colored precipitate, which settled completely after some hours. A drop of this precipitate gently warmed on a glass slide furnished a coagulum in which, after treatment with fuchsin and acetic acid, numerous blood-corpuscles were detected on microscopic examination. The test for haemin crystals was equally satisfactory. A small quantity of the precipitate dissolved in ammonia and treated with a few drops of a solution of ferrous sulphate and tartaric acid gave a solution which exhibited plainly the absorption-band of reduced haematin. An acetic acid solution of the precipitate furnished an equally satisfactory absorption-band of haematin. The chloral precipitate dried over sulphuric acid in a dessicator and kept for six months, furnished, on proper treatment, haemin crystals and the spectra of haematin and acid haematin as satisfactorily as did the original moist precipitate. The precipitate obtained by the addition of zinc acetate to a carbonic-acid solution of blood-stains furnished, on proper treatment, the spectrum of haematin in acid solution and of reduced haematin; but, did not, as a rule, afford haemin crystals.

If the fibrine left after extraction with carbonic-acid water is submitted to the action of water saturated with carbon dioxide for twenty to twenty-four hours and the residue is then examined microscopically, it is possible at times, especially if the blood is dried in a thick layer and not on a porous surface, to recognize the blood-corpuscles, normal in shape and size. These could be satisfactorily measured after they were treated for ten to twenty minutes with a one or two per cent. solution of perosmic acid, or, after they were colored with an aqueous fuchsin solution. An excess of the fuchsin solution can be removed by washing with water

containing carbonic acid. The diameter of blood-corpuscles from stains varied after this treatment, in human blood between 0.00748 and 0.00758 mm., in the blood of the ox between 0.00592 and 0.00624 mm.

In the case of stains more than six to eight months old from which carbonic acid fails to remove the coloring matter, other solvents may be employed; for example, dilute soda solution, acetic acid, etc.

The author describes experiments in which the foregoing process with unimportant variations was employed. In one of them some coarse sand was mixed with five per cent. of blood and examined ten years later with satisfactory results.

SUGAR AND OTHER REDUCING SUBSTANCES IN URINE.

The most important substance that reduces an alkaline solution of copper oxide, and that is apt, therefore, to be mistaken for sugar in urine, is glycuronic acid. This compound is the one which makes its appearance in the urine after the administration of chloral hydrate and croton chloral and which has been described as urochloralic acid and uronitrotolol. It also appears in the urine after the ingestion of brom-benzol, nitro-benzol, phenetol and some of the derivatives of quinine, benzol, indol, morphine and chloroform.

H. H. Ashdown, M.D., has investigated a large number of specimens of urine, in order to trace as far as possible, the presence of glycuronic acid and to differentiate it from glucose, and now publishes his results, together with a description of glycuronic acid and the method of obtaining it from urine.³

When pure this body appears in white amorphous granules; but in the state of anhydride, it forms fine, colorless acicular crystals. It is very readily soluble in water, not so readily in absolute alcohol, and scarcely at all in ether. Solutions of the acid are very readily decomposed, but they are much more stable in an acid than in an alkaline medium. In the urine it appears in combination with urea, but it is difficult to say whether uroglycuronic acid, or glycuronat of urea best represent its relation to urea; probably the former. It forms more stable compounds with barium and with lead. It holds the oxide of copper in solution in the presence of an alkali, and reduces it, throwing down the suboxide upon boiling, either in Trommer's or Fehling's test; a similar reduction occurs with the oxides of bismuth, mercury and silver. When pure it rotates the ray of polarized light to the right 35°; but many of its combinations rotate the ray to the left. It does not ferment in the presence of yeast, and thus markedly differs from glucose.

The best method to obtain this acid from the urine is that recommended by Schmiedeberg and Mayer. A large quantity of urine is evaporated to a syrup, and then digested at a gentle heat over a water-bath with a considerable excess of damp barium hydrate. It is then extracted with absolute alcohol which leaves the acid undissolved together with a number of other urinary constituents. The residue is treated with a large quantity of water and filtered; barium hydrate is added to the filtrate, which is again filtered and evaporated over a water-bath. There is thus obtained an amorphous, spongy barium compound, which is washed upon the filter with water, and decomposed by means of sulphuric acid, again dissolved in water, and evaporated *in vacuo* over sulphuric acid, when crys-

² Journal, April 4, 1880, page 337.

³ The British Medical Journal, January 25, 1890, page 169.

tals of the anhydride will be obtained. This method is not sufficiently accurate to allow of any valuable quantitative results. For definite recognition it is absolutely necessary to obtain the compound pure. The polariscope, unless used with pure solutions of the acid or with solutions of known combinations, is apt to mislead, since some of its combinations rotate the ray to the left, and others to the right; and if glucose be also present very erroneous conclusions may be arrived at. The best method of differentiating this acid from glucose is the fermentation test with yeast.

Ashdown's investigations show that the urine secreted after the administration of morphine and of chloroform, contains, not sugar, but glycuronic acid. These results confirm previous investigations of Meyer. The so-called glycosuria of curare-poisoning does not depend upon the presence of sugar; for there is no fermentation with yeast. The quantity of urine obtainable in these experiments is so small, however, that it is not possible to separate out glycuronic acid. The author has never found any reducing substance in the urine after the administration of ether. After section of the renal nerves, a paralytic secretion occurs; this contains a reducing substance which was found to be glycuronic acid. The quantity is never large, though distinctly marked. The author reports one case in which this reducing substance was excreted in large quantity. The man in whom this occurred enjoys perfect health, and does not suffer from any of the symptoms of diabetes. He however, passes daily very large quantities of glycuronic acid in a urine which is not increased in quantity or density.

Gaube⁴ has examined a large number of urines with regard to their reducing constituents, and states that in one case, that of an emaciated child, the reducing substance was aldehyde.

Professor Huppert, in a private communication to Robert Kirk,⁵ regards the uroleucic acid previously described by the latter⁶ in the urine in cases of alcapturia as a homologue of gallic acid and probably pyrogallol-propionic acid, or at least a trihydroxyphenyl-propionic acid. It does not give the genuine Millon's reaction, and therefore contains either no hydroxyl group in the benzene nucleus, or more than one; it is optically inactive, and therefore contains no asymmetrical carbon-atom.

Uroleucic acid was found to have considerable antiseptic power. It is entirely absent in normal urine. The substance previously described as uroxanthic acid, which accompanies uroleucic acid in these peculiar urines, has been more fully investigated, and found to consist simply of uroleucic acid mixed with hippuric acid as an impurity.

According to Mörner,⁷ the urine of persons taking acetanilide (antifebrin) reduces alkaline solutions of cupric hydrate and is strongly laevorotatory. This is due probably to a derivative of glycuronic acid. Chittenden⁸ finds that glycosuria is a very constant and characteristic symptom in poisoning by the salts of uranium.

In the estimation of sugar by Fehling's solution, Causse⁹ suggests the addition of 4 c.c. of a five per

cent. solution of potassium ferrocyanide, and 20 c.c. of water to each 10 c.c. of Fehling's solution employed. On running in the sugar solution to the boiling mixture, the potassium ferrocyanide dissolves the cuprous oxide as quickly as it is precipitated, and forms a colorless solution, thus rendering the exact point of decoloration more easily seen and preventing bumping. Potassium ferrocyanide appears to be without action on hot or cold Fehling's solution. On cooling the liquid obtained after titration, it turns brown and deposits colorless crystals which the author intends to study.

Crismer¹⁰ recommends a 0.1 per cent. aqueous solution of safranine as a reagent for the detection of sugar in the urine. One cubic centimetre of urine is heated to boiling with 5 c.c. of the reagent, and 2 c.c. of a ten per cent. sodium hydrate solution. If sugar is present, the safranine solution is decolorized. One milligramme of glucose in 1 c.c. of urine is sufficient to produce this effect. At the surface the color of the dye rapidly reappears, owing to reoxidation. Safranine is not reduced by uric acid, creatinine, chloral, chloroform, hydrogen-peroxide or hydroxylamine salts. Egg-albumen reduces it slowly, but completely.

Josef Geyer¹¹ has studied the relations of glycuronic acid to phenylhydrazin in order to discover whether they form any compound resembling the phenylglucosazon, formed in the phenylhydrazin test for sugar.¹² He finds that glycuronic acid and its sodium salt give, when treated in the manner recommended by Von Jakob, yellow crystals which cannot be distinguished from those of phenylglucosazon. He also examined the urine in fourteen cases, and although all of these contained a substance resembling phenylglucosazon, and reacted positively with Trommer's test, only four responded to the fermentation test and rotated the ray of polarized light to the right. He concludes, therefore, that the phenylhydrazin test is not a reliable one for sugar, and that the fermentation test and the test with the polariscope are the only reliable ones. Hirschel, however, has investigated this question and has reached a different conclusion.¹³ He finds that urines free from any sugar usually give with the phenylhydrazin test an amorphous, yellowish-brown, or brown precipitate which cannot be mistaken for the phenylglucosazon crystals. This precipitate is apparently a compound of phenylhydrazin with glycuronic acid. Hirschel believes that sugar is certainly present if characteristic phenylglucosazon crystals are obtained.

Torsellini¹⁴ finds that the reaction for glucose with the copper and bismuth solutions is masked or prevented by the addition of a relatively large amount of saccharine; but that the reduction is not prevented if one employs an excess of the reagent, or if the saccharine is first neutralized by sodium bicarbonate. Inasmuch as saccharine does not modify the rotatory power of glucose, he advises the employment of the polariscope for the determination of sugar in the urines of patients who are taking saccharine.

UROBILINURIA.

M. Hayem¹⁵ considers that urobilinuria, when ha-

⁴ Journal of the Medical Society, London, February, 1880, page 188, from Compt. Rend. Soc. Biol. (9) 1, 383.

⁵ Journal of the Chemical Society, London, February, 1880, page 188, from the British Medical Journal, April 2, 1880, page 1149.

⁶ This Journal, April 4, 1880, page 336.

⁷ Zeits. Physiol. Chem., 13, 12-25.

⁸ Studies from the Lab. Physiol. Chem., Yale University, 3, page 1.

⁹ Journal of the Chemical Society, London, October, 1888, page 1036.

¹⁰ Journal of the Chemical Society, London, April, 1880, page 446, and May 1880, page 552.

¹¹ Wien. Med. Preisse, 1889, page 1686.

¹² Journal, April 1887, page 334.

¹³ Zeits. Physiol. Chem., 14, pages 377-389.

¹⁴ Journal de Pharmacie et de Chimie, 1890, page 85.

¹⁵ Paris Correspondence, British Medical Journal, January 4, 1890, page 43.

bitual, persistent, and varying in degree, has a clear pathological significance, and is a valuable indication in forming an early diagnosis in diseases of the liver. He regards urobilin as the characteristic coloring matter of hepatic incompetency. He has observed urobilinuria in the following cases: (1) At the beginning of alcoholic cirrhosis. (2) In cardiac patients in whom the liver is not enlarged, it may be an indication of incipient hepatic lesions. (3) In numerous acute affections when observed in alcoholic patients, such as typhoid fever. When a large proportion of urobilin is detected in this affection, reserve should be made with regard to the prognosis. (4) In newly delivered and nursing women. (5) In most forms of cachexia. Urobilin has a feeble coloring power, and is found in pale urine. The deep coloring of urine observed in certain affections (fever with perspiration, lassitude, overfatigue) is usually due to urochrome.

THE URINE IN MELANURIA.

R. v. Jakob¹⁶ describes the examination of the urine in two cases of melanuria. The cases were patients suffering from melanotic sarcoma; in each case the urine contained a dark brown pigment. The following are the chief conclusions drawn: The most delicate reagent for detecting melanuria is a very dilute solution of ferric chloride; this colors the urine black. In urine containing melanin or its chromogen (melanogen), prussian blue is formed when the urine is mixed with a nitro-prusside and aqueous potash, and an acid added. The prussian blue reaction does not seem to depend on the presence of melanin or its precursor; these substances do not give the reaction when they are separated from the urine; it must, therefore, be due to some other substance excreted at the same time, and apparently some substance which is present in minute quantities, even in normal urine. The same substance is also abundant in urines which are rich in the indigo-yielding material.

PRECIPITATION OF ALBUMINS BY INDIFFERENT BODIES.

When urine is cloudy from the presence of bacteria, it is exceedingly difficult to obtain by filtration a liquid sufficiently clear to permit the detection of slight traces of albumin. Boymond¹⁷ has made many experiments, hoping to discover some comparatively insoluble substance which may be employed as an aid to such filtration. He found that a perfectly clear and partially decolorized liquid may be obtained by simply shaking the urine for awhile with washed talc and then filtering; but when urine, containing at the same time serine and globulin, were thus treated, the globulin was wholly removed, and possibly a portion of the serine. He then extended his researches to other substances; washed animal charcoal, carbonate of lime, phosphate of lime, carbonate of magnesium, calcined magnesia, and subnitrate of bismuth. The result was the same, with this difference, that subnitrate of bismuth removed completely both serine and globulin. Boymond proposes to continue his researches and extend them to other classes of "indifferent" substances. He calls attention at this time, however, to a possible source of error, which is obvious, in treating urines in this manner as a preliminary to the test for albuminous sub-

stances, and suggests that urine, deprived of serine and globulin by means of subnitrate of bismuth, may serve for the determination of other constituents, and that talc, either alone or in conjunction with magnesium sulphate, may be employed to precipitate globulin; affording at the same time a liquid perfectly clear, and more suitable for the detection of serine.

IODOFORM.

Choay and Gautrelat¹⁸ find that, following the internal administration of iodoform, only decomposition products of iodoform are found in the urine in those conditions which are attended with the excretion of an alkaline urine. On the other hand, in those conditions in which the process of oxidation taking place within the body is diminished, and in which an acid urine is excreted, iodoform is always present as such in the urine and can be removed by shaking the urine with ether, which leaves characteristic iodoform crystals upon evaporation.

POISONING BY TINNED CHERRIES.

Arthur P. Luff, M.D., and G. H. Metcalfe¹⁹ report four cases of tin-poisoning caused by tinned cherries. These cases are of special importance in that the form in which the tin was carried into solution was ascertained by analysis, and the amount of soluble tin salt present in the cherry juice was quantitatively determined. The patients were adult males. The symptoms of poisoning made their appearance in from one and a half to two hours. The local irritant symptoms were abdominal pain, vomiting, diarrhoea, and in two of the cases a transient albuminuria. A feeble, irregular, and rapid pulse, together with marked collapse and cyanosis, were prominent symptoms in all the cases. As a result of appropriate treatment, all the patients were practically well in twenty-four hours. The cherry juice was strongly acid, and analysis showed that the acidity was due to malic acid with a small quantity of acid tartrate of potash. The juice contained tin in solution, a quantitative estimation of which, showed that each fluid ounce contained the equivalent of 1.9 grains of the higher oxide of tin, which would be equal to 3.2 grains of the malate of tin in each fluid ounce, or 60.4 grains in a pint. As far as could be estimated from accounts given by the patients of the number of cherries and the amount of juice they took, the symptoms must have been produced by doses of the malate of tin varying from four to ten grains.

SEPARATION OF STRYCHNINE FROM BRUCINE.

J. E. Gerock²⁰ describes a method which is based upon the fact that brucine is much more sensitive to the action of oxidizing agents than strychnine is, and that the products of the oxidation of the former alkaloid fail to give precipitates with the general reagents for the alkaloids. Brucine undergoes this change when heated on the water-bath with nitric acid of specific gravity even below 1.06; while strychnine treated in a similar manner with nitric acid of specific gravity below 1.131 undergoes no change whatever.

The following is the method of procedure recommended. The alkaloids are gently warmed and precipitated from a neutral solution by means of picric

¹⁶ Journal of the Chemical Society, London, June, 1889, page 637, from Zeits. Physiol. Chem., 13, 285-294.

¹⁷ Journal of Pharmacie de Chimie, 1889, page 481.

¹⁸ Chemisches Centralblatt, 1890, 1, 333, from Rep. d. Pharm., 1889.

¹⁹ The British Medical Journal, April 12, 1890, page 833.

²⁰ Archiv der Pharmacie, 1889, page 158.

acid. After remaining for some time, the precipitated picrates are collected on a tared filter, washed with cold water till the washings become colorless, dried at 105°, and weighed. The precipitate is transferred so far as is possible to a beaker, and those portions remaining on the filter-paper are repeatedly treated with nitric acid of specific gravity 1.056, previously warmed on the water-bath. This nitric acid is then transferred to the beaker which contains the rest of the precipitate, and the mixture is warmed on the water-bath for some time. The picrate of brucine is destroyed, while the picrate of strychnine is dissolved without undergoing chemical change. The solution is then exactly neutralized and a trace of acetic acid is added. After cooling the picrate of strychnine is transferred to the same filter as before, washed, dried, and weighed. From the difference in weight, the quantity of brucine can be calculated.

STRYCHNINE-LIKE PTOMAINES.

Jeserich²¹ describes a ptomaine, which, like veratrine, was colored red by hydrochloric acid, and gave no reaction on the further addition of concentrated sulphuric acid; but with potassium dichromate and sulphuric acid it gave a color-reaction resembling in every particular the reaction given by strychnine with the same reagent. It did not, however, cause tetanic convulsions when injected subcutaneously in a frog.

White²² has extracted from food by the Otto-Stas process an amorphous substance which gave, with sulphuric acid and oxidizing agents, a purple color similar to that given in the strychnine test. The alkaloid was however tasteless. It was soluble in water, alcohol and ether; the aqueous solution was not alkaline; it gave a precipitate with phosphomolybdic acid and with a solution of iodine in potassium iodide, but no reaction with nitric acid or with ferric chloride.

NICKEL.

Rohde²³ has investigated the action of organic acids on nickel. Nickel utensils were exposed to the action of two and four per cent. solutions of lactic, acetic, citric, tartaric and butyric acids, both cold and hot. He concludes that the quantity of nickel dissolved by these acids is altogether too minute to have any appreciable effect on the system, and that utensils made of nickel may be safely used for household purposes. The results of Rohde's researches corroborate those of Riche, which have already been noticed in these reports.

DESTRUCTION OF ORGANIC MATTER IN TOXICOLOGICAL INVESTIGATIONS.

F. Marino-Zucco²⁴ recommends covering the substance with concentrated nitric acid and then passing nitrogen tetroxide into the mixture, heat being applied when the liquid has become green. One kilogram of meat may be completely destroyed in half an hour, and the fat may be removed from the surface after cooling. Experiments with definite quantities of arsenic, copper and zinc showed that the method is well suited for the purpose.

²¹ *Chemisches Centralblatt*, October 12, 1889, page 617.

²² *Ibid.*, October 19, 1889, page 691.

²³ *Ibid.*, November 2, 1889, page 803.

²⁴ *Journal of the Chemical Society*, London, June 1889, page 653, from *Chemisches Centralblatt*.

Reports of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

The Twelfth Annual Congress of the American Laryngological Association convened in Baltimore, May 29th, 30th and 31st, in the lecture-room of the physical laboratory of Johns Hopkins University, Dr. JOHN N. MACKENZIE, of Baltimore, presided.

The following Fellows responded to roll-call by the Secretary, Dr. C. H. KNIGHT: Drs. Morris J. Asch, New York; F. H. Bosworth, New York; Wm. H. Daly, Pittsburgh; D. B. Delavan, New York; F. Donaldson, Baltimore; J. H. Hartman, Baltimore; F. W. Hinke, Buffalo; Edgar Holden, Newark; E. F. Ingals, Chicago; W. C. Jarvis, New York; C. H. Knight, New York; S. W. Langmaid, Boston; A. W. MacCoy, Philadelphia; J. N. Mackenzie, Baltimore; H. C. McSherry, Baltimore; J. C. Mulhall, St. Louis; C. C. Rice, New York; J. O. Roe, Rochester, N. Y.; C. Seiler, Philadelphia; H. L. Swain, New Haven; S. O. Vander Poel, New York; B. F. Westbrook, Brooklyn.

One new member was elected, Dr. Jonathan Wright, of Brooklyn. The sessions were held twice daily, on the first two days; the final session on Saturday morning was held in the library of Johns Hopkins Hospital.

THE ANNUAL ADDRESS.

was delivered at the opening session Thursday morning by the President, DR. JOHN N. MACKENZIE, in which he alluded in complimentary terms to the scientific work done by the Fellows during the past year. No deaths among active Fellows had occurred during the year. The death of Voltolini, one of the pioneers of laryngology and a Corresponding Fellow of this Association, was referred to in appropriate terms. The great advances in laryngology made during the last few years, the increase in the number of those engaged in its practice, and the greater attention given to its teaching by medical schools, may make it advisable at a future meeting to enlarge the membership which now is limited to fifty, but the time had not yet arrived. A favorable mention was made of the Congress of American Physicians to be held next year in Washington, in which this Association will participate. The attention of Fellows was also called to the condition of the library, and they were invited to contribute their publications to this collection, in order to build up a valuable library, for which they have special opportunities.

A SUGGESTION CONCERNING THE INTIMATE RELATIONSHIP BETWEEN BULBO-NUCLEAR DISEASE AND CERTAIN OBSCURE NEUROTIC CONDITIONS OF THE UPPER AIR-PASSAGES,

was the title of a paper substituted by DR. JOHN N. MACKENZIE, of Baltimore, for that which had been announced upon the programme.

The reader stated that the reciprocal relationship between lesions of the central nervous apparatus and certain morbid phenomena exhibited in the upper respiratory tract, is a subject of surpassing interest, and one, strange to say, upon which comparatively little original work has been done. There has been too great a tendency for specialists to confine research within exact anatomical limits, and within too contracted a sphere of observation. The text-books give

very little attention to this interesting class of cases, and what is given is in terms vague and indistinct. Functional aphonia, and the affections which Sir Morell Mackenzie has named "spasm of the tensors of the vocal cords," are illustrations. What do we know concerning the pathology of either of these? They are expressions of some central trouble, but we know absolutely nothing of their primary cause or essential nature. The close nervous relations existing between the nasal chambers and the medulla and sympathetic nervous system, the lecturer had had occasion to refer to in previous communications, and would not further discuss. The present paper refers especially to bulbar lesions with symptoms of disorder in the upper air-passages. The case reported was that of a widow aged about forty, whose husband had been a drunkard, who had died about a year before she came under observation. Her own habits had been always good; she had not been infected by syphilis. She had been subjected to much mental strain and worry, and, although she had not been nervous previously, her friends had noticed that she became so after her husband's death. A short time subsequent to that event, while at house-work, her face became suddenly drawn to the left, especially the corner of the mouth. No difficulty in articulation occurred, and in three days the attack passed off. After an interval of perfect health, she was attacked by partial loss of power in her right hand, with loss of sensation; there was tingling in the lower extremities without loss of power. This tingling sensation was also felt in the throat. She attributed the attack to over-work; she having carried wet clothes on her arm the day previous. These symptoms gradually disappeared; but a difficulty in articulation ensued, without aphasia; mouth again drawn to one side (the left). Several weeks after these symptoms had subsided, while sweeping her room, she was seized with foaming at the mouth, and puffing out of the cheeks, with tingling in the right hand. She could only mumble a few unintelligible words. No fall or convulsion. She walked up stairs to bed. Legs were swollen. About six weeks later she had slight dysphagia, pain in the back of the neck and shooting pains in the hands. These symptoms also passed away. When she came under observation there was slowness in movement of the tongue; it could not be lifted to the roof of the mouth, nor above the upper lip. The mouth was drawn at the angles; could not whistle nor kiss, nor blow out a candle at a greater distance than a foot from the mouth. Some difficulty in mastication, and in facial muscles, in movements of the muscles of expression. Complete paralysis of soft palate and uvula; reflex excitability there and in the pharynx notably diminished. Voice had nasal twang. Rhinoscopic examination negative. Saliva thick, tenacious; difficulty in expectorating; requiring its removal with the finger or handkerchief. General muscular weakness, without paralysis. Temperature normal, respiration 30. Slight dyspnoea, much increased by exercise. Patient has hysterical spells of noisy crying and laughing.

The patient was only seen once; because she received an unfavorable prognosis, she never returned. Sufficient data, however, were obtained to demonstrate the bulbar-nuclear nature of the case. If in this class of disorders, neurologists and laryngologists could work together, more light would doubtless be thrown upon their pathology.

DR. BOSWORTH: considers the case as one of neuritis, especially of trifacial, and could not see why it should be called one of bulbar disease. Moreover, if the latter, it would be necessary to determine what form; whether a clot or a thrombus, or softening or a tumor. The diagnosis of bulbar disease is not enough.

DR. DELAVAN: ever since Gottstein directed our attention to the throat symptoms of bulbar disease, there has been a tendency to refer all cases of nervous origin to a central lesion. Many of these cases are of bulbar disease, but it is possible for the central lesion to be other than bulbar. Indeed, cases have been reported where it was shown to have been cortical. While we may not at present be able to clinically differentiate these cases, yet it is very possible that we shall be able to do so in the future, by the combined work of neurologists and laryngologists.

DR. BOSWORTH: was not aware of any well-established case in which laryngeal paralysis was caused by a cortical lesion; no case in which it was shown, by post-mortem, conclusively, that the cause was not in the bulb, but in the brain. Long before Gottstein, Hughlings Jackson had shown that in some cases of laryngeal paralysis the lesion is in the medulla.

DR. DELAVAN: It has been demonstrated that cats, dogs and monkeys have a cortical centre for the movements of the larynx, and it is probable that it exists also in man, though less developed perhaps. In some cases the bulbar lesion is demonstrated after death; in others no such lesion can be found; and the cause must lie in the hemispheres, more or less deeply in the cortex, as suggested by Ferrier.

DR. BOSWORTH: The psychical centre must lie in the cortex. This can be conceded, but the motor centre for the larynx is in the bulb. This subject he had discussed in a paper read at the last meeting of the Association, and had gone over the whole subject. There are but two forms of laryngeal paralysis. We have no other forms.

DR. MACKENZIE: The case corresponds clinically with other cases of bulbar disease, and cannot be explained on the ground that it is a neuritis, especially of the trifacial, unless the nerve is distributed to the back of the neck and the lower extremities as well as to throat and larynx. He thought that the last speaker had misunderstood, or failed to hear the history of the case, and requested him to look over it carefully, and he would find the diagnosis of neuritis untenable.

In the absence of the author, Dr. Jarvis was appointed to read a paper by DR. S. SOLIS COHEN, entitled

LOOK BEYOND THE NOSE.

It was a plea for the broader view of the cause of diseases in the nasal chambers and their relation to general symptoms. Cases were reported showing mistakes in diagnosis, where headache and other symptoms, not relieved by operation, were promptly cured by general treatment.

DR. ROX: A headache, of course, always indicates that something abnormal is going on; but when any man attempts to ascribe all headaches to one source, he also is abnormal. The causes are varied. Of two cases, both presenting affections of the nose or nasopharynx, and treated precisely alike, one will be entirely relieved, the other will not be cured until he has appropriate constitutional treatment for the concurrent disorder. He cited a case of his own. An

operation had relieved a headache which had been troubling the patient for three or four years. There was marked pressure between the middle turbinated bone and the septum, which he had relieved. The facts of Dr. Cohen's paper go without saying.

DR. JARVIS agreed with the last speaker, that we could not account for the fact that nasal obstruction is attended by nervous symptoms, such as headache in some persons and not in others. While reading Stanley's account of the expedition in Africa, he noticed that the blacks were quite unmindful of even serious wounds, and seemed to recover with little disturbance of health. This led him to formulate a theory that might explain the problem stated above. The ancestors of the blacks had been accustomed to being wounded, and to have their flesh cut or scratched in going through the undergrowth, so that after a number of generations the nervous system became less irritable. In civilized life, among the higher classes, protected as they are from physical injury, the nervous system becomes more susceptible. He has known a slight amount of nasal obstruction in a brain-worker to produce a great deal of distress, headache, etc. The same lesion might be entirely unattended by nervous symptoms among the lower classes. The difference consists in the increased susceptibility of the nervous system to peripheral impressions.

DR. BOSWORTH: It seems like an indictment of the members to imply that they do not look beyond the nose. As competent specialists we all do look beyond the nose.

The PRESIDENT endorsed the last remark, and thought that no discussion was required upon the paper. It appealed to the common sense of every person of intelligence.

AN INSTRUMENT FOR REMOVING GLANDULAR HYPERTROPHIES FROM THE TONGUE.

The presentation of instruments being in order, DR. ROE exhibited a guillotine, made on the principle of the tonsillotome, for removing hypertrophied adenoid tissue from the dorsum of the tongue.

DR. BOSWORTH said that there was danger of cutting off the epiglottis in unskillful hands; and several Fellows declared that they had never seen a case that would require the employment of such an instrument, and said that hypertrophied glandular tissue at the base of the tongue is a very rare condition.

DR. ROE said that the accident need not occur if ordinary care be employed in using the instrument.

WIRE-LOOP CURETTE FOR REMOVING ADENOID NEW GROWTH FROM THE PHARYNX.

DR. HOLDEN, of Newark, exhibited an instrument consisting of a flexible wire-loop fixed in a handle, the loop being sharp upon its inner or concave side, dull upon its convex side. He had found it very useful in removing vegetations from the pharynx, acting very much like the finger nail.

DR. DELAVAN presented several instruments designed for the removal of adenoid hypertrophies or fibroids from the pharynx. One was a loop-shaped steel instrument, cutting on the inner side, the other being a sharp spoon, both being employed preliminary to using the forceps for the removal of these growths in young adults.

In the opening of the afternoon session, DR. MORRIS J. ASCH, of New York, read a paper describing

A NEW OPERATION FOR DEVIATION OF THE NASAL SEPTUM.

He used (1) a peculiar shaped pair of forceps, or scissors, with short, curved blades, one of which is sharp and the other dull; (2) a gouge; (3) Adams's forceps; and (4) a triangular splint of tin, cut to adapt itself to the cartilage of the section. In performing the operation, the patient is etherized, the adhesions between the septum and turbinated body, when such exist, are broken up by the curved gouge. The blunt edge of the scissors is inserted into the obstructed nostril and the cutting blade into the other. A crucial incision is then made as near as possible at right angles to the point of greatest convexity. The gouge is then inserted into the obstructed nostril. The segments made by the incision are pushed into the opposite one and the pressure continued until they are broken at their base and the resiliency of the septum destroyed. On this point depends the success of the operation, for unless the fracture of these segments is assured, the resiliency of the cartilage will not be overcome, and the operation will fail. The septum is then to be straightened with the Adams or other strong forceps and the hemorrhage checked before proceeding farther, which is usually accomplished by a spray of ice-water, though sometimes tamponing may be required. The nostril having been cleansed, the straightened septum is then held in position by the splint, previously wrapped with absorbent cotton, moistened in a solution of bichloride of mercury (1-5,000), and the nostril packed with gauze or absorbent cotton, moistened with the same. This should be done thoroughly or hemorrhage will follow. The splint is usually allowed to remain four days without being disturbed, and then removed; and after cleansing and disinfecting the parts, the splint and tampon are then reapplied, the parts being straightened, if necessary, with the forceps. The treatment lasts from three to five weeks. If bony deviation is found to exist behind the cartilaginous one, it can be easily removed with the saw or electric trephine. Six cases were appended to the paper.

DR. MULHALL, of St. Louis, remarked that he came from the city of Dr. Steele, who was the inventor of the instrument for treating these cases, known as Steele's forceps, which he used in fifteen or twenty cases. Although not entirely pleased with it, he approved of the plan submitted by the lecturer, of restoring the parts with a single incision. Steele's forceps makes six cuts. He had often had persistent perforation at the centre of the crucial incision, and should give Dr. Asch's instrument a trial.

DR. JARVIS said that in order to prevent the perforation, above mentioned, after operation, he had modified the forceps so that while the six incisions were made, an island in the centre was left untouched. With this he had never had perforation resulting. In order to keep the channel open he had discarded plugs, and resorted to an external nasal splint which he had devised some time ago.

DR. INGALS said that the principle of the instrument was not new. He had learned at college to make two parallel oblique incisions through the septum, so as to make it movable and place in proper position. In nineteen out of twenty of these cases there is excess of tissue, and he advocated the removal of a triangular piece between the incisions, so as to

permit the septum to fall into position. Where there is no hypertrophy, he would prefer to use a small trephine, making three or four perforations, and then the septum can readily be moved into position and kept there with some sort of splint. His own practice was to pack the affected side with absorbent, antiseptic gauze, leaving the opposite nostril free. The dressing is changed in twenty-four hours by the patient and a douche used, before returning to the office. He then introduces a flattened tube of gutta percha, fitted to the nostril; he prefers gutta percha to a soft rubber or ivory because it does not swell and cause pressure. The gutta percha may be wrapped around with gauze, if desired. It is easily moulded, when heated, to any shape.

DR. ROE said that where the deviation was limited to the cartilaginous septum, he was in the habit of dividing it with a bistoury in the direction of greatest convexity, then forcing it into position with Adams's forceps, or a similar instrument, rather over-correcting the deformity. When the deviation exists also in the bone, he breaks it up with the forceps, and uses a gauze antiseptic plug in the affected side. In this way he almost always had good results. When an exostosis exists it should be removed.

DR. BOSWORTH complimented Dr. Asch upon bringing out such an ingenious instrument, which not only corrects a vertical displacement, but a lateral one as well.

DR. MACKENZIE said that with Steele's instrument he failed to cut through the septum. He had used a modification of these forceps made in Philadelphia, which had answered his purpose fully. He approved Dr. Roe's suggestion to remove a portion of the cartilaginous septum when hypertrophied, in order to get a permanent result. His cases did not bear plugging of the nostril, and he considered it unnecessary. The septum cannot be kept in place by pressure. If anything of the kind is used, it should be cotton wet with glycerine or vaseline. With regard to the hard plug, he had seen unilateral convulsions caused by an ivory plug, this was repeated several times. He considered the after-treatment the most important.

DR. LANGMAID said that it did not matter so much what means were used to break the septum, the object of treatment is to prevent the recurrence of the deformity. He would emphasize the fact that after the operation the septum must remain in position of itself without pressure. He preferred a small black rubber nipple, wrapped with cotton, for a plug, and adapted to the shape and size of the nostril. He approved of Dr. Mulhall's suggestion, that patients should occasionally introduce a finger into the nose and push the septum over where there is a tendency to recurrence.

DR. JARVIS: With regard to the external nasal splint, although he had used it formerly in many cases, he had not used it lately. He now uses a new crown drill, with which he pulverizes the bony obstruction, guided by transfixion needles so as not to perforate the septum. In this way he secures enough room for the septum to fall into good position, and give good flow of air through the nostril.

DR. BOSWORTH considered it unjustifiable to remove an organ of important functions simply for the purpose of admitting more air into the nose.

DR. MULHALL defended Steele's forceps against the charge that they would not go through the septum. He had not found this difficulty where there was no

hypertrophy. Where there was this complication, he reduced the hypertrophy first. While there was a tendency to return after the operation, he had never seen it so decided as at first — never complete closure.

DR. INGALS: The resiliency of the septum must be gotten rid of before the operation is finished; after this, the treatment is very simple. He has had patients wearing a plug for six weeks. Where there is great thickening, he advised running a small trephine through it several times, without perforation, until it can be easily pushed over to the other side.

DR. MACKENZIE said, in reply to Dr. Mulhall, that he referred to deformed, and not thickened septa; Steele's forceps would not cut through ordinary thick paper, whereas those he referred to would cut six thicknesses of chamois skin.

DR. DALY said that he had not experienced any difficulty with Steele's forceps. He does not stop with one incision, but cuts the septum in several places. The object is to break up the cartilage, it is not necessary to perforate the septum.

DR. ASCH, in closing the discussion, said that in the paper he had declared that the success of the operation depends upon breaking down the resiliency of the septum; this being done, the splint is introduced. If it is plugged lightly with cotton, there is no trouble whatever. With regard to his instrument, he had been led to it by his failure with Steele's. In Jarvis's plan, the resiliency of the cartilage is not destroyed, and the deformity will return. He had never had septic symptoms after the use of the plug.

DR. DALY described his method of plugging the nostril with absorbent cotton, wrapped spirally with cotton thread, so that the entire plug could be easily removed.

The PRESIDENT remarked that the whole discussion turned upon the necessity of overcoming the resiliency of the septum in order to secure a permanent result. This point he had already insisted upon in a paper read before the Association some seven years ago.

DR. HOLDEN referred to a case of a young lady, upon whom repeated operations had been done without entirely overcoming the deformity. The septum in this case was then movable and crackled like parchment under the finger. The last operation with Steele's forceps, followed by ivory plug, had straightened the septum, but had left an ugly excrescence in the nostril, which he proposed to remove with the drill.

DR. ALEXANDER W. MACCOY, of Philadelphia, presented a specimen, and read a report of

A CASE OF FIBRO-MYXOMATOUS TUMOR TAKEN FROM THE NASO-PHARYNX OF A CHILD SIX YEARS OF AGE.

This is the first case that had come under the lecturer's attention in so young a child, although he had seen a polypus in a child under one year of age. Myxoma in the nasal chambers presupposes catarrhal inflammation, and this is why it is so rare in childhood, because few have had chronic inflammation of sufficient duration to develop the pathological changes necessary for the growth of polypi. The tumor in this case filled the naso-pharyngeal region, but did not come below the soft palate. The attachment was about half an inch in diameter, the growth springing from the free surface of the vomer. It was removed by the galvano-cautery snare; the wire was passed

through the nostril and around the base of the growth, and the pedicle cut through. There was trifling amount of haemorrhage. Recovery prompt and complete. The growth, upon microscopic examination, possessed the characters of a fibro-myoma.

The PRESIDENT said that he had previously published the notes of two cases of myxoma in children, and had referred to them in his article in Keating's "Cyclopaedia of Diseases of Children." They occurred in the same family, in a brother and sister, one four years of age, the other six. He removed both with the cold-wire snare. Morrell MacKenzie did not meet with a case under the age of sixteen years. Voltolini reported a case of polypus in a very young child; such instances are apt to turn out to be simply hypertrophies.

DR. SWAINE had seen a case in a child eight years of age of fibro-myxoma, just before leaving Germany; he did not know the outcome of it.

DR. BOSWORTH said that the tumor seemed to present the usual appearance of a fibro-myxoma; being encapsulated.

(To be continued.)

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.¹

SECOND DAY.—WEDNESDAY, JUNE 4TH.
MORNING SESSION.

A CASE OF SUCCESSFUL NEPHRECTOMY FOR ADENOMA.

By DR. E. L. KEYES, New York.

A CASE OF SEVERE HÆMaturIA; NEPHRECTOMY BY DR. McBURNEY; RECOVERY.

By DR. F. TILDEN BROWN, New York.

Woman of twenty-six; married; three children; previous health good. Came of gouty family; three attacks of haematuria, first in March, 1888, second in August, 1888, and third in October, 1889. First two attacks recovered from in a week on the average. First attack diagnosed rupture of a renal vessel; second attack diagnosed by a different physician as renal calculus; third attack diagnosed by Dr. Brown as renal calculus, and nephrotomy was undertaken by Dr. McBurney for the removal of the calculus. Thorough exploration failed to reveal a calculus and the importance of immediate nephrectomy to check fatal hemorrhage was apparent and at once performed. The operation was followed by a critical condition especially marked on the third day. Relief from hot air and steam bath in bed. Six days later miscarriage at about second month. Considerable loss of blood. Patient again prostrated, but slowly rallied and made complete recovery. Wound entirely healed by December 15th. Operation, November 5th. The other kidney had been equal to all physiological requirements. Histological examination of the entire specimen by Dr. Delafield showed only chronic pyelitis attributed by him to the former presence of a calculus sometime since passed, probably in the earlier clots of the first attack, but leaving an inflamed condition of the pelvis sufficient in his opinion and by clinical experience to account for this severe haematuria. It was on this account that the case was reported.—

¹ Report of the Fourth Annual Meeting, at Altoona, Pa. Continued from page 636 of the last number of the Journal.

this heretofore unrecognized variety of kidney lesion capable of such severe hæmaturia. The author would suggest "chronic pyelitis, with acute hemorrhagic exacerbations" as an appropriate name for this disease.

DR. BELFIELD thought Dr. Brown's case unique, and the procedure undoubtedly correct, owing to the obscurity of diagnosis.

DR. A. T. CABOT said he noticed in Dr. Brown's case that, in putting on the ligature, the ureter was included with the vessels. He cited a case in which he had adopted that plan, and although the stump was sufficiently long, and all possible care taken in tying, yet on separating the kidney from the vessels, there was a tremendous hemorrhage from the artery, which was with difficulty controlled. The patient lost a dangerous amount of blood, and lived only about twenty-four hours. Post-mortem examination showed no injury to any vessels, except the renal vessels and the hemorrhage was due to the drawing of the stump out of the ligature.

DR. F. TILDEN BROWN said he fully appreciated the warning of Dr. Cabot, but in his case the condition of the patient was such that it rendered every moment of importance.

DR. BRYSON had been accustomed to attach great importance to the specific gravity of the urine, as to the diagnosis and as to the favorable or unfavorable nature of the prognosis.

DR. BROWN stated that the specific gravity was suggestive of a decidedly gouty condition; but, on the other hand, there were no crystals of oxalate of lime or uric acid found which seemed rather a contradictory condition. After the operation the specific gravity fell, was low throughout recovery, and since recovery had been rather lower than normal.

DR. A. T. CABOT read a paper on

A CASE OF CYSTITIS, WITH THE FORMATION OF A THICK EPIDERMAL SHEET IN THE BLADDER.

DR. J. W. WHITE thought this case belonged in the class of cases which Guyon had described as "membranous cystitis." Guyon had reported a number of cases in which even more extensive formation of membrane had occurred, and in which the pathological condition was practically the same. If one were quite sure of the diagnosis, and if the disease had reached the stage it had in Dr. Cabot's case he thought the suprapubic was undoubtedly the best method of procedure. We could hope for very little from washing out the bladder or from internal remedies, although in certain of Guyon's cases large quantities of the membrane had been passed spontaneously with at least temporarily complete relief.

DR. WATSON stated that he had had this patient under his care before Dr. Cabot took charge of the case, and that he was able from the urine to make a diagnosis of new growth but no new growth he knew anything about. If one knew there was this condition present it seemed to him the suprapubic operation was the only one one would care to try, because it was not like having an isolated tumor which could be reached through the perineum. One had to peel this off. It was very dense.

DR. BRYSON said in those cases of exfoliative cystitis he had seen especially in women, there was more fibrinous admixture, more like the diphtheritic membrane than this seemed to be.

DR. A. T. CABOT presented specimens of the epidermal sheet in this case. The sheet did not seem to resemble the fibrinous sheets he understood to characterize the cases of Guyon. This was a thickened epidermal sheet and not a fibrinous sheet from the surface of the mucous membrane. The inflammatory element was very strong in Guyon's cases and not in this.

A CASE OF SUPRAPUBIC LITHOTOMY AND PROSTATECTOMY,

by DR. J. WILLIAM WHITE, Philadelphia, Pa.

J. S., sixty-eight; family history of tuberculosis; always a moderate drinker; recently intemperate; urinary symptoms six years; catheter required at intervals for eight years. For four years unable to urinate without catheterization. Progressively increasing pain in hypogastrium, now (1889) excruciating and felt also at end of penis and in rectum. Lost much flesh; chronic bronchial cough. Eats and sleeps poorly. Urine scanty, loaded with pus and vesical debris, contains hyaline and granular casts. Physical examination per rectum; enlarged prostate both laterally and longitudinally, the finger being unable to reach its upper limit. Bladder contains a soft phosphatic stone of medium size. Mitral murmur bronchial catarrh; beginning consolidation at left apex. Operation, December 11, 1889. Linear incision two and one-half inches long in linea alba just above the pubes. Stone crumbled under the touch of forceps and was removed by the finger and a scoop. The major portion of the projecting prostate removed by enucleation with the finger. Large drainage-tube inserted into the bladder and held in place. Outlook most favorable for three days. On the fourth maniacal delirium, excessive restlessness, wakefulness, jactitation, etc.; refused food, tore off dressings and had to be kept in bed by force. Tongue became dry and dark; pulse increased in frequency; no chill, sweating nor rise of temperature. Urine continued to flow through the wound which was irrigated daily with boric acid, listerine or phenol sodique. Patient passed into a stupor and died seven and a half days after operation. Autopsy: ureters distended to nearly size of wrist, kidneys almost completely disorganized containing multiple purulent collections, showing scars of previous abscesses and rendered almost useless by chronic nephritis. Tubercular changes in lungs.

Dr. White offered some criticisms upon his course stating that in view of the kidney disease probably he should have been content with suprapubic lithotomy; and that possibly the use of chloroform would have been better in this case; also that after he had decided upon prostatectomy a less thorough operation might have been advisable.

NOTES ON THE TECHNIQUE OF SUPRAPUBIC CYSTOTOMY AND PROSTATECTOMY,

by DR. W. T. BELFIELD, Chicago.

The reader summarized his method of procedure as follows:

- (1) Body upon inclined plane; pelvis eight or ten inches above shoulders.
- (2) Bladder moderately distended.
- (3) Rectum not distended.
- (4) Incision about one and one-half inches above upper border of symphysis and extends same distance below it.

(5) After division of deep fascia, finger inserted along posterior surface of symphysis until pubo-prostatic ligaments reached, then pushes prevesical fat upwards along anterior surface of bladder carrying peritoneal fold, if present, with it.

(6) Bladder attached to upper angle of wound by suture preferably through muscular coat only; chrome catgut suture then inserted so as to make a subsequent quilt suture. Incision in bladder is close to symphysis.

(7) After necessary intravesical manipulation the *buttonniere* is made. Tube one-half inch in diameter with two large lateral openings introduced over large uterine sound to the most dependent portion of the bladder and fixed by stitching through skin.

(8) Bladder wound closed by the quilt suture already inserted and by several additional interrupted sutures. Retro-pubic space irrigated. Iodoform gauze inserted; wound closed and dressed aseptically.

A NEW MEANS FOR THE REMOVAL OF INTRAVESICAL GROWTHS THROUGH A SUPRAPUBIC CYSTOTOMY,

by DR. F. S. WATSON, Boston.

REMOVAL OF THE THIRD LOBE OF THE PROSTATE, WITH COMPLETE RESTORATION OF THE FUNCTIONS OF THE BLADDER,

by DR. F. N. OTIS, New York.

O. P. B., came under observation, October, 1889, with a history of frequent urination dating back ten years. In early youth a slight urethritis. Two years ago marked diminution of size of stream of urine, and pain in urination. On examination, stricture found, to which his urinary difficulty was solely attributed. Internal urethrotomy. More easy flow of urine, but no relief to symptoms. Urine became purulent; pain after urination increased; and after some months severe spasms, referred to neck of bladder. Examination discovered a vesical calculus. Litholapaxy, October, 1888. Relief temporary. October 1889, patient debilitated; urine ammoniacal, loaded with pus and mucus. Retention. Examination failed to recognize any prostatic enlargement or to detect any stone or pathological change in the bladder. No kidney elements in urine. With the cystoscope a dark irregular spot about the size of a dime was seen on the left side of the *bas fond*. Slight induration recognized with end of cystoscope. This appearance was observed in subsequent examinations, and taken in connection with persistence of symptoms, seemed to warrant an exploratory operation. Operation, November 22d. A well marked enlargement of the third lobe of prostate recognized. The suspected point in the *bas fond* proved to be a vesical calculus which evidently had been encysted. This was removed. The question of removal of the enlarged third lobe was decided in the negative owing to the condition of the patient and the fact that he was passing a large amount of urine of low specific gravity. Recovery from operation satisfactory. Symptoms, however, soon returned. In January, 1890, the enlarged median lobe removed through a perineal section. The first step in the operation consisted of a suprapubic section, through which the bladder was explored and a phosphatic stone removed. An attack of subacute pleurisy rendered the condition of the patient critical and the convalescence tedious. About April 1st, he returned home cured, with the exception of slight vesical catarrh.

DR. H. G. MUDD showed a

FIBRO-MYOMA OF THE MALE PELVIS.

DR. J. W. WHITE said he felt inclined to continue the use of the rectal bag, notwithstanding its dangers. It gave a firm basis of support behind and made easier the recognition of small growths. He believed some of the risks would be diminished by using a cylindrically elongated bag.

DR. POST: He agreed with Dr. White that it was very difficult to know exactly in what cases of prostatic enlargement a portion of the prostate might be removed to give relief. There must be a number of cases in which we must be satisfied with some form of drainage, either through the perineum or over the pubes; and there must be a pretty large number of cases in which it was impossible to isolate a distinct growth which could be removed as such and how much to remove in cases of concentric hypertrophy or where it was impossible to make out a distinct lobe he felt uncertain; and it seemed to him it must require considerable experience yet to determine exactly the best course to pursue in each case.

DR. W. K. OTIS said that perhaps a better way of operating in suprapubic cystotomy was not to fill the bladder until after the wound had been made down to the bladder in order to obviate any danger of bursting the bladder from the patient's movements while being etherized. Where there was a very small bladder that held only five or six ounces, it seemed to him better to open it on a sound, lifting the bladder up through the wound so that one might examine it more easily than one could otherwise a small contracted bladder with a small amount of water in it.

DR. BANGS said he had become conservative with regard to the performance of prostatectomy. In cases in which he had done suprapubic lithotomy and found a very seriously obstructing prostate which could be easily removed and without much danger to the bladder, he had refrained, because he had observed that after the removal of a stone from a bladder which previously had been unable to spontaneously evacuate its contents, the bladder had recovered its function, so that the amount of residual urine would be slight and perfectly clear and limp. He thought elevation of the bladder by means of a moderately distended bag in the rectum did facilitate some steps in the operation and in old men especially, celerity of operation was very important. He had never found any especial advantage in draining the so-called prevesical space.

DR. CABOT thought there was great danger from the rectal bag, and that it was to be used with great care. There was this advantage in using it, that it brought into view the posterior wall of the bladder, where most of the tumors and morbid conditions were, and made much manipulation unnecessary. He thought the pear-shaped bag preferable to the sausage-shaped.

DR. BRYSON thought we must rely upon the general health, no matter what the technique of the operation, and the general health would be determined mainly by the condition of the kidneys. Suprapubic cystotomy in the young and vigorous was not, in his experience, attended with bad results. Heart-failure he feared more than anything else in these cases. He thought the observations of Dr. Belfield, in regard to the effect upon the arterial pressure of irritations about the rectum, vagina, etc., were of the highest importance.

DR. BELFIELD thought Dr. White need not censure

himself for the fatal result in his case. He himself had lost a patient under precisely the same circumstances, except that he had not removed a portion of the enlarged prostate. In his own case chloroform was used. As to the rectal bag, he meant that in the typical suprapubic cystotomy the bag was unnecessary, and should be omitted. There were cases in which the base of the bladder should be raised, and in those the bag was desirable. His conviction was that the advantage of suprapubic drainage, according to the method described by him, over what we used to call perineal drainage was enormous. Dr. Bangs had referred to a case in which spontaneous urination occurred after simple drainage. Inasmuch as the cause of the condition was to be found in enlargement of the prostate, in his judgment it would be better to remove that cause, particularly as in the ordinary case it would not add materially to the danger of the operation, and might prevent the return of the condition for which the operation was done. The condition of weakness, to which Dr. Bryson has referred, was unquestionably the chief factor to be feared.

DR. F. S. WATSON said statistics showed that the palliative operations were quite as dangerous as the radical ones, and when one had opened the bladder he might just as well go on and take out the growth, unless the case presented some peculiar difficulty, such as extreme exhaustion, in which event one would secure drainage and subsequently complete the operation. The device Dr. Otis mentioned of using a sound to lift up the bladder dated back to the early part of the century certainly. He was in accord with what Dr. Bryson had said in regard to the specific gravity of the urine. He thought the less the prevesical space was disturbed the better. Injection of both the rectum and the bladder, when it could be done, was, in his opinion, better than injection of the bladder alone. He did not think any drainage could be more thorough than that secured by the large-sized hard rubber tubes introduced by him two years ago.

A CASE OF CONGENITAL MALFORMATION OF THE URETHRA,

by DR. A. W. STEIN, New York.

The malformation in this case was, so far as Dr. Stein knew, unique. It consisted of an abrupt diminution of the canal about an inch anterior to the membranous portion. Urethra of normal calibre (33 F.) in front of the diaphragmatic obstruction; but here the mucous membrane was folded upon itself toward the lumen of the canal, and the urethra was reduced to about fifteen millimeters in circumference, and remained uniformly diminished to the vesical orifice, a distance of about three inches. As there was frequent micturition, and a history of gonorrhœa stricture was suspected, in exploring the urethra, the urethrotome was first used, then the bougie *a boule*, and subsequently smaller instruments. All met decided obstruction about five inches from the meatus, giving the impression that a very narrow stricture existed. Internal operations were abandoned, and external perineal urethrotomy without a guide contemplated. He was suffering from phthisis pulmonalis, and operative interference was deferred until he should become stronger. He died from asthenia in a few days. There was concentric hypertrophy of the walls of the bladder until its cavity was diminished to a capacity of about two ounces.

DR. J. B. WHITE mentioned a case of malformation of the urethra which had come under his observation. The testes were bound down on each side of the perineum in such a manner as to represent, on first inspection, the external genitals of the female. The penis was of the ordinary length and size for a child of two years, and there was no separation between the prepuce and the glans penis; no phimosis; no preputial opening, but the urethra opened just at the root of the penis between the two testes, and the penis gave much the appearance of an enlarged clitoris, and the other external genitals looked much like the external genitalia of the female.

DR. BRYSON stated, in connection with the general subject of stricture, that these were non-progressive cases. Whatever congenital malformation was there in the beginning remained the same throughout.

(To be continued.)

Recent Literature.

Cyclopaedia of the Diseases of Children, Medical and Surgical. Edited by JOHN M. KEATING, M.D. Volume III, 1371 pages. Philadelphia: J. B. Lippincott Co.

The third volume of this work comes at a most opportune time at the beginning of summer, containing as it does a large portion, — Part I., — devoted to the diseases of the digestive system, and one naturally turns at once to the article on "The Diarrhoeal Diseases, Acute and Chronic." This important subject is discussed in a thoroughly scientific manner by L. Emmett Holt in an article of one hundred pages, an article which, owing to the great strides made in this direction, differs widely from the chapters on this subject in text-books that have been published even a comparatively short time ago. The difficulty of classifying the cases coming under this head is admitted to be very great, and Dr. Holt has endeavored to avoid this, and to clear up the confusion on the subject, by separate pathological and clinical classification. His attempt is a step in the right direction, and forms, for the present at least, a good working basis. Although it is well-known that the word "diysentery" is very often misused in children's diseases, still one is hardly prepared to find it entirely discarded. That diarrhoeal diseases depend upon bacteria as their principal exciting cause is thoroughly accepted by the writer, who bases his argument partly on the etiology of these diseases, partly on their clinical history and pathology, and partly on analogy.

The chapter on pathological anatomy is formed almost entirely from a study of 109 autopsies, and is illustrated by excellent plates showing the intestinal lesions as seen with the naked eye and by means of microscopic sections. The chapters on treatment should be read with great care, as they are most excellent; but, as Dr. Holt says, "Those who consult these articles to find formulae will be disappointed. . . . The routine use of certain complicated formulae because some writer has lauded them as 'good for diarrhoea,' cannot be too much condemned." The dietetic part of the treatment is of course very prominent, and the starvation plan for the first hours is especially recommended. The old-fashioned astringents are dis-

carded, and the limitations in the use of antiseptic drugs shown.

A very interesting and suggestive chapter is presented by Wm. D. Booker, on the "Intestinal Bacteria of Children," in which he says: "As far as the biological characters of the bacteria in the diarrhoeal stools of infants have been studied, it appears that not one specific kind, but many different kinds of bacteria are concerned, and their action is manifested more in the alteration of the food and intestinal contents, and in the production of injurious products, than in a direct irritation upon the intestinal wall."

EARL, of Chicago, contributes a useful article on "Constipation," a subject which, notwithstanding its frequency, is not generally dwelt on in treatises on children's diseases.

In a work so well illustrated we are surprised to find no plates or even figures of the intestinal worms, in the brief chapter devoted to the subject.

Among the other valuable papers in Part I., are "Functional Disorders of the Stomach," by Pepper; "Peritonitis," by Ashby; "Congenital Abnormalities of the Intestine," by Wharton; and some eighty-five pages on Diseases of the Liver, by Chapin, Musser and Hatfield. Musser gives a table of thirty-four cases of abscess of the liver in children.

Part II., "Diseases of the Genito-urinary Organs," contains over two hundred pages of interesting matter by Tyson, Goodhart, Jacobi, Sturges, Keating and others, on the various divisions, many of the articles being profusely illustrated and exhaustively written. The paper on "Acute and Chronic Bright's Disease," by Goodhart, is particularly valuable, the writer pointing out very clearly the peculiarities of this disease in children as distinguished from that in the adult.

Griffith writes an extensive treatise on "Diseases of the Blood," unavoidably omitted from its proper place in Volume I. The methods for examination of the blood are thoroughly explained, and the article is illustrated by colored plates and by cuts.

The last five hundred pages are devoted to "Surgery" and "Diseases of the Osseous System and Joints." A criticism might be made here that some of these articles, — notably that on "Wounds," by McCann, and "Amputations," by Hopkins, — might with advantage be much abbreviated by limiting them to the consideration of the subject as it concerns children alone. This criticism does not, of course, apply to such articles as those on "Club-Foot" and "Torticollis," by Bradford and Brackett; on "Lateral and Functional Curvatures of the Spine," by Gibney; on "Deformities of Bone," by Gerster; on Pott's Disease," by Roberts; and on "Mechanical Treatment of Deformities of Infantile Paralysis," by Brackett. It is impossible in this limited space even to mention all of these articles. They are carefully written and well illustrated, many of the illustrations being from photographs.

This volume, like its predecessors, is thoroughly indexed, and is certainly a satisfactory work of reference.

C. W. T.

An Experimental Study in the Domain of Hypnotism.

By D. R. VON KRAFT-EBING, Professor of Psychiatry and Nervous Diseases in the Royal University of Graz, Austria. Translated from the German by CHARLES G. CRADDOCK, M.D., Assistant Physician Northern Michigan Asylum. Octavo, pp. xii,

129. New York and London: G. P. Putnam's Sons. 1889.

This little monograph by one of the greatest alienists in Germany has already become classical; and amid the mass of rubbish written on hypnotism by incompetent observers, it stands as one of the few exhaustive scientific studies. It is with pleasure, therefore, that we greet the work in a form accessible to the English reader. In October, 1887, Kraft-Ebing had the opportunity, which is so infrequent, of studying the manifestations of hypnotism in a peculiarly favorable subject. The patient was a young woman of twenty-nine, an hystero-epileptic of a pronounced type, who had for many years been the victim of repeated hypnotizations. As a consequence, her consciousness was never entirely clear, but fluctuated between complete and partial unconsciousness. She had typical hystero-epilepsy, right hemianesthesia and sexual perversion. In consequence of her unbalanced state, she had committed various acts, some of which had brought her into the hands of the police, who transferred her to the medical authorities at Graz. There, in her normal lucid state, she was found to present the ordinary picture of grand hysteria. It was very easy to hypnotize her; and in this state the only avenues of suggestion were the sensory and auditory, the cortex being in a state of great inhibition, to the exclusion of spontaneous apperception. Through suggestion in these channels, however, the experimenter could unlock any portion of the cortex desired, with unlimited power. By this means a therapeutic action was attempted, with some benefit. Unfortunately, however, an hystero-epileptic attack, or voluntary effort on the part of the patient, produced a third auto-hypnotic state. This state was found divisible into three, which could be experimentally produced, and in them, among other manifestations the patient unconsciously stole bright objects. Inhibition was less than in the second state; but the attempt to carry out a post-hypnotic action commanded in this state, if it involved a state or a complicated action, threw the patient into a state of auto-hypnotism. These three spheres of consciousness never intersected. In the first the patient was an hystero-epileptic, with clear consciousness; in the second she was in a state of great inhibition, but could be impelled to automatic action; in the third she was a somnambulist, capable of spontaneous action within a limited sphere as a result of auto-suggestion or post-hypnotic suggestion by a third person, but depending on a dreamily deepened consciousness. In this state she became a thief, and could be made the involuntary instrument of crime.

We must refer the reader to the original for the details of this study, the most valuable and thorough inquiry into hypnotic phenomena that has yet appeared. Kraft-Ebing recognizes the value of suggestion in the treatment of functional nervous affections, but the case shows most strikingly the dangers of hypnotism in unskilled hands, — dangers which many enthusiasts seem disposed to slight.

P. C. K.

— A doctor in Philadelphia has been arraigned on the charge (to which he pleaded guilty) of having sent a letter to a delinquent patient in an envelope on which was printed, "Dead-Beat, Bad-Debt Collection Agency." The fine was one dollar and costs. One more case where the truth must not always be spoken!

THE BOSTON

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RECENT SPECULATIONS AS TO THE NATURE OF CANCER. THE ELECTROLYTIC TREATMENT OF CANCER.

DR. J. INGLIS PARSONS, of the Chelsea Hospital for Women, has published his views of the nature of cancer, and the results of the treatment by a new electrolytic process of several well-marked cases that were considered as unsuitable for operation. His paper has appeared in several of the British medical journals, and has been reprinted in *Wood's Medical and Surgical Monographs* for March, 1890. Of the various hypotheses to explain the nature of cancer, that theory which has found its most elaborate expression in the Morton lecture of 1889 by Dr. John Marshall, although Dr. Parsons claims priority of statement, is that cancer is due to an escape of healthy cells from the control of the nervous system. Dr. Parsons asks whether it is not possible that all tumors are, in the first instance, composed of cells formed in the normal process of repair, but that, having escaped from the control of the nervous system, they take on an independent life, and continue to proliferate and develop without check, just as all living cells are capable of doing *ad infinitum* under favorable conditions? The frequent association of cancer with a depressed condition of the nervous system and with local causes of injury, is explained by this hypothesis. According to Dr. Gross's statistics, out of 907 cases of cancer of the breast, there had been antecedent inflammation in 20 per cent., and a history of injury in 13 per cent. Dr. John Williams found microscopical evidence of the gradual transition from healthy tissue into cancer in a case described by him in the Harveian lectures.¹

Dr. John Marshall, in the lecture above alluded to,² insists on the lack of demonstration that in the epithelioid cells of cancer there are any nerve fibres; consequently, their growth and behavior are unregulated, disordered and anarchical. Even in plants there is "a fine, delicate, protoplasmic fibre" which seems to govern the evolution of the outgrowing cells of the

¹ Lancet, November 30, 1889, p. 1108.

² Lancet, November 23, 1889.

plant. In the animal, nerve filaments penetrate into all normal epithelial tissues; "it has been, moreover, demonstrated that a nerve, a commanding thread, an electric cord, as it were, passes into each individual cell, and what can be assigned as a function to it, except that it is the governing cord, the co-ordinating fibre of its life?"

Dr. Marshall does not believe "that in the pell-mell agglomeration which we see in a cancer, each cell has its own proper guiding fibre." In answer to the question how the nerve connection comes to be severed? he thinks that it may be from the extreme rapidity of the cell growth. In the healthy formation of epithelial tissue, the nerve tissue would still remain in it; but in the overgrowth excited by some injury, "the cells break away from the nerves; they retain the power of multiplication within themselves, because each cell, like the cell of a minute infusorial creature, contains the quantity and kind of material which is necessary to build it up, but it does not retain the governing tissue with its power of control."

We have not time to enter into the further explanations based on the supposed chemistry of the cancer-cell, which form an interesting part of Dr. Marshall's lecture. Dr. Parsons also insists on the severance of nerve connection, and on the consequent proliferation of the cancer-cells, resulting from their independent existence, "which enables them to overcome the healthy cells, since these, for want of sufficient stimulus, remain passive." But the malignant cells multiply with such prodigality that they soon suffer in their nutrition, and their vitality is lowered; and this very fact causes them to perish more readily than the healthy tissues.

Dr. Parsons has experimentally attempted the destruction of cancerous growths with both the interrupted and the constant voltaic current. He has found the constant current worthless to check the growth of cancer, while from the interrupted galvanic current, some most gratifying results have been obtained. The *modus operandi* is as follows: The patient is anaesthetized, the current is then passed through the tumor and all the tissues for some inches around it by means of fine insulated needles, so as not to injure the skin. A battery of seventy cells, with an electro-motive force of 105 volts, is used; the intensity of the current to commence with is ten milliampères, gradually increased to 600 milliampères, and gradually flashed through the growth in every direction from fifty to one hundred times, according to circumstances. The pulse and respiration are carefully watched. The effects produced by the action of the electricity consist in a cessation of growth, gradual disappearance of pain, some shrinking and hardening of the tumor and enlarged glands, followed by improved nutrition and a better state of the general health. The growth, as a whole, does not disappear, but remains as an inert mass, composed, in all probability, of fibrous tissue alone.

The advantages claimed for this method of treatment are as follows:

(1) There is no destruction to the normal tissues of the body, and if recurrence should at any time occur, its progress can be immediately stopped, and the treatment repeated as many times as necessary. Life would by this means be prolonged indefinitely, provided that metastatic deposits had not occurred before the commencement of the treatment.

(2) Patients are not obliged to keep their beds for more than a day or two, as a rule. They lose no blood, and are not generally any weaker.

(3) The current can be passed through almost any part of the body, and thus arrest growths which could not by any possibility be otherwise treated.

The above may be regarded as the latest phase of the question of the electrolytic treatment of cancers. It is for the electro-therapeutists to judge as to the merits of this method. It is notorious that constant currents of considerable intensity have failed to arrest or destroy cancerous growths, though often effectual in the case of fibroid tumors. Dr. Parsons thinks that he has demonstrated that the interrupted voltaic currents may, under careful management, be used with safety, while their destructive effect on the cancer-cells is considerable; to quote his own language: "the impact of a powerful current, when suddenly flashed through, causes death to those tumor-cells which lie in the nearest path between the poles where the lines of force are most concentrated, or else they are sufficiently injured to lead to their gradual atrophy."

A WORD TO YOUNG PRACTITIONERS ON "CHANGING DOCTORS."

It is not intended to give to young men just starting in practice any lengthy advice — of that they have probably received their full share, all they care for, and more than they will heed; but there is one subject on which a word may not be amiss.

It is inevitable that they should see patients whom they would prefer to keep, leave them for some other practitioner. It is a common experience, and unavoidable. In a large city it is a matter of little consequence: in a country town it is more serious, and often causes very bitter feelings. But no man ever gains anything by being angry over it. It is much better to recognize the fact that it must occasionally happen, and to accept it gracefully. If a family is determined to change, it has the right to do so. If the doctor is angry and shows it, he makes it impossible for them to return to him later if they should, at some future time, realize that the change was a mistake.

The fact will remain that no one physician can render satisfactory service to everybody. Human nature is too diverse in its various forms for any one practitioner to give universal satisfaction; and it is well that it is so, or all practice would gravitate toward that one.

Nothing that has been said is intended to lessen the efforts of every practitioner to act honestly by every case that falls into his hands, but simply to induce in

the minds of younger members of the profession a philosophical spirit which will prevent the loss of a desirable patient from destroying their peace of mind.

MEDICAL NOTES.

— Up to June 25th there had been a total of one hundred and ninety-six cases of cholera in Valencia, of which one hundred and thirteen proved fatal. Such violence of the disease shows that it is of a malignant type.

— The bill providing for three separate boards of State medical examiners in New York State after September 1, 1891, to be appointed by the regents of the university — one board to represent the medical society of the State of New York; one to represent the homeopathic medical society of the State of New York; and one to represent the eclectic medical society of the State of New York — has been signed by Governor Hill, and is now the law of the State.

— The Faculty of the Jefferson Medical College, Philadelphia, have contemplated the enlargement of their building for over two years. About one year ago they secured several properties fronting on Walnut Street, west of Tenth, for this purpose. It is now stated that the proposed improvements will be made within the next six months. The addition, when finished, will be used for class-rooms, operating-rooms, clinics and library.

— Medical students in London have been compelled to go through a course of four years' study, hospital attendance and lectures before being qualified to appear for the final examination. By an order of the General Medical Council of England, issued last month, the term of preparation has been extended to five years.

The Raleigh, N. C., *Chronicle* is one paper which has an appreciation of the medical profession. Speaking of the late meeting of the State Society, it says: "There is no profession in the State that stands higher — and deservedly so — than the medical profession. Learned, kind, sympathetic, benevolent, they are an honor to the commonwealth, and deserving of all the esteem and love that an affectionate and grateful people can show to the best product of their civilization."

— The *Medical News* says that on May 26th the Bicêtre, the great Parisian asylum for the insane witnessed the strange sight of a rebellion of its inmates. The rebellion was begun by a maniacal patient bursting the bars of his cell and then releasing forty others. They attacked and drove back their guards, and then proceeded to ransack the quarters of the keepers, after which they kept up the fight quite fiercely until the guards got access to the water-hose and turned it on them; this frightened and cowed the rebels so that they retreated and were one by one returned to their cells.

— A contemporary calls attention to the growth of the "naphtha habit" among the female employees of rubber factories. The inhalation of naphtha fumes produces a peculiarly agreeable inebriation. Naphtha is used to clean rubber; and is kept in large boilers, to the valve of which the employees obtain access and breath the fumes. The habit was introduced from Germany, and is chiefly found in New England.

— We clip the following sentences from Mr. Lawson Tait's recent address on "The Details of Abdominal Section," before the Cardiff Medical Society: "It is the nidus for germs that is to be feared, and not the germs themselves, and your every care should be to have nothing about that could serve as a soil for their growth and development. I use plain water, no kind of chemical compound. . . . I never allow nurses to wear watches with second hands, but I give them a little sand-glass which runs for a minute, so that there is no margin for error. I take the temperature in centigrade, so that the friends of the patient may not understand it."

— It appears that in China the distinction between the physician and the surgeon is somewhat sharply drawn, as appears from the following story told by the writer:

"An English tourist was riding a bicycle in Hong Kong, when he fell from his bicycle with such violence that one of the wire spokes was run into his shoulder, where it broke off and stuck fast. The man was removed to a house and a surgeon summoned. The surgeon first demanded his fee. After pocketing his money he broke off the protruding point of the spoke, leaving the other fragment imbedded in the sufferer's body. He then went away. The tourist was in intense agony, but the surgeon would not help him. Medical etiquette forbade. 'The case is for the physician,' he said, 'as the wire is inside the body.'"

— A curious fraud has been detected in Milwaukee, where a warrant was issued authorizing the arrest of Joseph A. Wilt, Dr. C. A. Jansen and Jim Lee, alias Gun Wa, on a complaint sworn out by a city detective, charging them with conspiracy to defraud, obtaining money under false pretenses, unlawful assumption of the title of "doctor," violation of the pharmacy statute and circulation of obscene literature. Gun Wa is an alleged Chinese physician and graduate of several Chinese medical colleges, who professes to cure all diseases known to man. Wilt is his manager and Dr. Jansen interpreter. Their office was established in July last and has done an enormous business. Wilt acted as manager and interpreter until March last, when the increase of business was such that it was found necessary to procure help and Dr. Jansen was brought on from Chicago to act as interpreter. An investigation was set afoot and it was found that the alleged doctor was a Chinese laundryman sent on from Denver by Frank L. Smith, head of the Gun Wa company, which has branches in Denver, Kansas City, Detroit, Indianapolis and Milwaukee, and that

neither Wilt nor Jansen, who acted as interpreters, could speak a word of Chinese. Since opening the office here a year ago three Chinamen have played the part of Gun Wa.

NEW ENGLAND.

— A considerable number of cases of typhoid fever has recently appeared in Waterbury, Conn., and the Board of Health has forbidden the further use of the milk of a neighboring dairy, among the patrons of which a disproportionate prevalence of the disease is said to have occurred.

Miscellan.

ACUTE OEDEMA GLOTTIDIS AFTER POTASSIUM IODIDE.

CASES of this nature are few in number, and one reported by Dr. Groenouw is quoted in the *Practitioner*, for June, from *Therapeut. Monatschete*, No. 3, 1890. "A strong, healthy man, forty-three years of age, suffering from optic atrophy, and with the urine quite free from albumen and sugar, was treated with iodide of potassium, in the form of a watery solution, in doses of seven to fifteen grains thrice daily. On the afternoon of the second day, when he had taken about forty grains of the salt, he complained of a feeling of rawness in the throat; by the evening of the fourth day there was hoarseness, with pain on swallowing, localized in the right side of the larynx. These symptoms, which were not by any means prominent, were not more pronounced on the evening of the sixth day, after the use of a little over three drachms of iodide. The same night, after two hours' quiet sleep, the patient awoke, began to cough, and noticed suddenly, that although the expiration was free, the inspiration was difficult, and he felt as if a valve were in the throat. The difficulty lessened in the space of two hours, and he slept again, the dyspnea having quite disappeared by next morning. In the afternoon, on examination, the right ventricular band was edematous, as also the mucous membrane over the arytenoid cartilage and the ary-epiglottic ligament. After an intermission of two days, the iodide was resumed; and although the dose was a full one, no further symptoms of iodism appeared. In spite of the severity of the attack tolerance was established. The iodide of potassium given was exactly the same as other patients were using, and it is not likely that the symptoms were due to impurity of the drug. Groenouw observed a similar case two years ago in a woman of sixty-six, who was the subject of a moderately enlarged thyroid, but without difficulty of breathing, and was suffering from oculo-motor palsy of one eye, for which iodide of potassium was prescribed in small doses. After seven grains, severe coryza and conjunctivitis, with great dyspnea and loss of voice, came on. Examination showed marked pharyngeal catarrh and evident swelling and redness of the ventricular bands. Three days later, when the symptoms had subsided, four grains were given daily for three days; but, on being increased to twice daily, there appeared — more or less every time — hoarseness, difficulty of swallowing and pain in the head. The drug was accordingly stopped for four days, and then the patient took about four grains daily, diluted with

much water, the dose being gradually increased in the course of the next two weeks to fifteen grains a day. On attaining this amount, it had to be reduced on account of pain in the throat and general restlessness; and seven days later it was discontinued altogether. Groenouw thinks the following conclusions may be drawn: After the administration of iodide of potassium, there occurs in certain rare cases great dyspnea due to oedema of the glottis, sometimes so extreme as to demand rapid tracheotomy. It does not arise from long use or large doses — relatively small amounts have hitherto induced it; and other symptoms of iodism, such as headache, are wanting. The action is local upon the larynx, not part of the general oedema. Its cause is certainly the iodine, not the potassium, and it cannot be ascribed to any impurity. No local or general diseased state, for instance, cardiac or renal disease, can be recognized; and the cause must be looked for, rather in an idiosyncrasy of the individual, although even this is not by any means absolute, as a complete tolerance may be established after a few days' pause."

SOME CONSERVATIVE VIEWS OF HYPNOTISM.

In the discussion on this subject, which has, of late, been carried on, there have not been wanting those who protest against the recognition of hypnotism as a therapeutic agency, particularly from its dangers if abused as it is so likely to be. The lawyers have been turning their attention to it and recognize that its possibilities for crime are great. Among medical opinions we insert two, first that of Dr. E. C. Spitzka, the president of the American Neurological Association, who says:

"I find it difficult to discuss the matter with patience. That the phenomena of hypnotism exist and that they command the earnest investigation of scientific men there is no doubt. But I do not believe the time has come to use the method as a remedial agent. We don't know enough about it. I am sorry to say I cannot draw a sharp line between some of the phenomena of hypnotism and the ideas of the spiritualists and old-fashioned mesmerists. The charlatans who use the system to humbug the public are frauds who should be suppressed. Did you ever see a collection of photographs of those people? The rogues' gallery would be a collection of gentlemen compared with them. And yet they undoubtedly have a mysterious power over certain persons. Animal magnetism won't account for it. I saw the other day the daughter of a New York physician, a delicate, beautiful young girl, completely hypnotized by one of the ugliest, most repulsive-looking Russians you ever saw."

Again, Sir Andrew Clark says, in the *Lancet*:

"The first thing that strikes me in connection with hypnotism is the confidence with which it is asserted that it has been proved beyond dispute to be so successful that it cannot drop. But I am old enough to remember that this was said in the time of mesmerism. Practically, mesmerism fell into desuetude fifteen years ago. Except in distant corners such a thing is scarcely heard of. Now, from some researches which have been conducted at Nancy and stimulated by the opposition of the Salpêtrière school, we have the subject once more brought before us, and we are told of the advent of a great and important practical truth. Therefore we are told that hypnotism has established itself

for all good. I have no hesitation in prophesying that before twenty-five years have passed it will be in the same position that it was twenty-five years ago."

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

DR. PÉAN.

PARIS, JUNE 6, 1890.

MR. EDITOR:—The subject of this note is about sixty years of age, and more than twenty years ago he obtained the world-wide reputation of being a skilful surgeon and a brilliant operator. Those who have visited the Hôpital St. Louis, of which he is surgeon, have greatly appreciated his merits as an operative surgeon. He has often been compared to Ferguson for general surgery, and to Sir Spencer Wells and to Lawson Tait for abdominal surgery, in which branch he has excelled. Saturday is his day for operations at the hospital, when a great number of foreign surgeons may be met there. Every Saturday he performs, between 10 and 12 o'clock, five or six operations, among which are always several of considerable importance. He delivers, at the same time, clinical lectures on the cases on which he is about to operate. The scene in the operating theatre is striking and characteristic. He is a man of powerful build, with black hair and whiskers, his face shows intelligence and determination, and his whole appearance indicates a man of superior knowledge and great courage. While energetic in manner, he is cool and self-possessed. He is in the habit of describing always beforehand, as most French surgeons do, the leading features of each case on which he is about to operate, and the precise method which he intends to adopt. While operating, he describes each modification of his methods which the circumstances call for, and clearly demonstrates not only his manual of proceeding at each stage, but the reasons which dictated it, and the changes which he introduces to suit the peculiarities of the case as it develops itself under the knife.

What attracts the attention of visitors is the display of numerous instruments, and the number of large and small haemostatic forceps, which he has adopted in preference to any other method of arresting hemorrhage. He has for a long time almost completely abandoned ligatures, relying on the use of preventive compression by small and large haemostatic forceps, of which he makes the freest use. By this means he succeeds in greatly abridging the time occupied in operation, and in arresting the flow of blood, which is otherwise apt to obscure the view of the parts in course of operation both from the surgeon and the spectator. He claims that the free use of his haemostatic forceps gives much greater certainty to the proceedings of the operator. Dr. Péan performs more than five hundred operations every year in this hospital, exclusive of the operations performed by him in private, "*maisons de santé*," with very encouraging results. Those for the past year, for example, have been so successful that he has not had one single death due directly to the operation.

As a general surgeon Dr. Péan may find his equal among the younger surgeons of the day, but for abdominal surgery, and particularly ovariotomy, he has certainly not been surpassed. Among the most important of his modifications of ordinary operative proceedings is that which he describes as "*le morcellement*," or removal of tumors in sections, by proceeding from the centre to the outer circumference. Piecemeal enucleation, "*morcelement de tumeurs*," and compression of vessels by haemostatic forceps left *in situ*, combine considerably to abridge the time occupied in operation, and avoid many operative complications. This proceeding has been described and illustrated by the author in *La Gazette des Hôpitaux* in 1872 and in 1887, and also in the seventh volume of his "*Leçons de Clinique Chirurgicale*." The method consists

especially in operating from the centre to the periphery, so that the surgeon reaches the great vessels and the important organs, which are generally on the external surface of the tumor, only when the operation is drawing to an end. This is especially a consideration of much interest when dealing with tumors which occupy a dangerous region. Many tumors which are considered almost beyond the range of operation in such regions, especially when very large, have come easily within the reach of the knife by this method. Thus, the ablation of voluminous tumors of the neck, of the thyroid gland, face, abdomen and pelvis, is carried out with great rapidity and facility, and with very little loss of blood with the aid of forcipressure.

For the piecemeal enucleation of soft tumors and of tumors of the bones, M. Péan employs special cutting-forceps,—"pince *emporte-pièce*"—which easily remove masses of the substances dealt with. For operations on the bones, he has for nearly twenty years employed an instrument constructed by Mathieu, the well-known surgical instrument maker, called the polytritome, which he considers of the first importance. By the aid of this instrument trephining and sections of the bone can be rapidly carried on, and it also allows the operator subsequently to remove portions in pieces as he desires. For the skull, for example, instead of trephining with one crown of the trephine, it is enabled, with the polytritome, to employ five or six circles of the trépan, and with his *pince emporte-pièce* he removes all the intervening portion as quickly as if he were operating on the soft parts. For the maxillary bone, without looking for the special landmarks, which are carefully sought out in order to introduce the chain-saw, M. Péan simply makes a preliminary incision, removes the maxillary bone by *morcelement*, beginning at the centre, and in ten minutes he arrives at the periphery and completes the operation. So, also, for the ribs,—in lieu of cutting the rib, he takes the *emporte-pièce*, removes the rib in pieces after having detached the periosteum, without troubling himself about the neighboring organs. In the same way he has removed without difficulty, with the polytritome and the *emporte-pièce*, enormous enechondromata, which projected into the pleura and partly filled it, or into the ilium. Whenever he has to deal with a bony tumor, he attacks it similarly from the centre, so that he never has any fear lest he should injure the viscera in the neighborhood of the operation.

The substitution of the haemostatic forceps for the common ligature is now pretty generally adopted by the French surgeons. For instance, in vaginal hysterectomy they have substituted for ligature of the broad ligaments the application of long curved forceps for continuous pressure on the folds of the membrane, these forceps being intended to insure haemostasis, and left *in situ* for twenty-four or forty-eight hours. This practice, due to Dr. Péan and Dr. Richelot, is considered to have considerably simplified the manual proceeding in an operation, on the value of which opinions are, however, divided. Dr. Péan applies this method of forcipressure to the treatment of aneurisms of the limbs. In this method compression replaces the ligature. According to the author, the seats of aneurisms cause considerable differences in the latter. An aneurism of the hand has no gravity whatever; a femoral or a popliteal aneurism is a serious lesion. If it concerns a diffuse aneurism of the hand or of the foot, the forceps should be placed above and below the aneurism. If the aneurism is circumscribed, the sac should be removed after having compressed the artery. Antiseptic dressing, compression and immobility complete the cure. If one has to do with a diffuse aneurism of the popliteus, the popliteal artery should be compressed above and below the sac, as also all the collateral branches. The forceps should be left *in situ* for thirty-six or forty-eight hours. If secondary hemorrhage should be produced, the ends of the arteries should be taken up and compressed. The author considers this method of compression superior to the ligature. It is more prompt, arteries are less liable to be injured than with the ligature, which denudes the arterial surface to a certain extent, thus producing the tearing of the *vasa vasorum*.

Dr. Péan's achievements in surgery are most remarkable, and many of them prove the great advantage of surgical interference in what may be termed strictly medical cases. He has within the last few years successfully removed about twenty tumors affecting the brain or its coverings, in patients, however, in whom there were physical signs which pointed to the seat of such tumor. He is an untiring worker. Endowed with a vigorous body and an active brain, he finds no pleasure in rest. His voluminous works testify to his zeal and fertility as a writer, and the clinical material they embody shows an amount of personal experience seldom acquired by a man of his age. He has invented a variety of operative proceedings and of instruments, of which a description is to be found in the volumes of clinical lectures which he publishes every two years.

As one of the most remarkable achievements in surgery due to Dr. Péan is the total ablation of the bones of the face, a note on which he communicated to the Academy of Medicine on January 14, 1890. The case was that of a

woman aged thirty-two years, who was the subject of multiple tumors of the bones of the face, in which the sphenoid, the three maxillary and the malar bones were affected by osteo-fibromata consecutive to dental heterotopies. The operation was most successful; and in conjunction with Mr. J. P. Michaels, a dentist, who undertook the prosthetic part, it reflects the greatest credit on both surgeon and dentist, not only in an aesthetic point of view, but the functions of the mouth, throat and nose have been restored to almost their normal condition.

Notwithstanding the preeminent qualities possessed by Dr. Péan, he was, for reasons best known to the members of the Academy of Medicine, not received among them till about two years ago, although he had more than once presented himself as a candidate. Some attribute this circumstance to professional jealousy, others say that, although he is a first-rate surgeon, he was not considered sufficiently a savant to have the portals of the Academy opened to him.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 21, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diphtheria and Croup.	Diarrheal Diseases.	Typhoid Fever.
New York	1,622,237	773	267	23.01	11.70	4.68	15.73	.39
Chicago	1,100,000	292	107	14.96	8.50	3.40	4.76	9.32
Philadelphia	1,061,277	480	247	14.04	10.71	2.10	18.06	2.31
Brooklyn	882,467	370	202	26.46	11.34	4.30	15.93	.21
St. Louis	560,340	212	123	30.98	7.32	2.35	23.03	.47
Baltimore	500,243	234	141	34.32	14.32	7.48	20.44	1.56
Boston	450,110	166	41	9.60	13.20	4.30	2.40	1.80
Cincinnati	325,000	146	66	28.29	12.42	4.14	26.70	—
New Orleans	280,000	173	84	26.68	5.80	—	19.14	1.16
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	121	66	35.86	6.64	4.15	—	5.81
Nashville	68,513	34	13	29.40	5.88	—	—	5.58
Charleston	60,145	42	21	28.56	4.76	—	16.66	2.38
Portland	42,000	13	2	7.69	—	—	—	—
Worcester	81,622	26	8	11.55	15.40	—	—	—
Lowell	73,370	32	12	25.00	12.50	3.13	6.26	9.39
Cambridge	67,026	19	8	5.26	10.52	5.36	—	—
Fair Haven	64,062	17	5	23.42	1.64	—	23.52	—
Lynn	65,000	9	1	9.09	9.09	—	—	9.09
Springfield	41,520	8	1	12.50	12.50	—	—	—
Lawrence	41,058	19	6	15.78	21.04	5.36	—	—
New Bedford	38,218	11	5	9.09	9.09	—	9.09	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,242	8	5	25.00	25.00	12.50	—	—
Chelsea	28,781	5	2	—	—	—	—	—
Haverhill	27,124	9	6	22.22	11.11	—	11.11	—
Taunton	25,544	4	1	25.00	—	—	—	—
Gloucester	24,904	3	0	—	33.33	—	—	—
Newton	22,011	4	0	—	25.00	—	—	—
Marlboro	20,615	5	0	20.00	—	20.00	—	—
Watertown	17,988	4	1	—	—	—	—	—
Fitchburg	17,988	5	3	20.00	—	—	—	—
Arlington	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	2	0	—	—	—	—	—
Quincy	14,114	5	1	—	40.00	—	—	—
Newburyport	13,915	—	—	—	—	—	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,275; under five years of age 1,546: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 827, consumption 331, acute lung diseases 260, diarrhoeal diseases 549, diphtheria and croup 104, typhoid fever 67, scarlet fever 31, measles 25, cerebro-spinal meningitis 23, malarial fever 22, whooping-cough 21, erysipelas 8.

From scarlet fever New York 11, Brooklyn 5, Chicago 4, St. Louis 1, Cincinnati 1, Philadelphia and Worcester 2 each, Baltimore 1. From measles New York 10, Philadelphia and Brooklyn 3 each, Chicago, Baltimore and New Orleans 2 each, Washington, Charleston and Lawrence 1 each. From cerebro-spinal meningitis Washington 5, Chicago and St. Louis 4 each, Brooklyn and Cincinnati 2 each, Philadelphia, Boston, Worcester, New Haven 1 each. From malarial fever New Orleans 9, Brooklyn 3, New York and Baltimore 3 each, Philadelphia and Charleston 1 each. From whooping-cough,

New York 8, Philadelphia, Brooklyn, St. Louis and Charleston 2 each, Chicago, Boston, Portland, Lowell, and Salem 1 each.

From erysipelas New York 4, Chicago 2, Brooklyn and Lawrence 1 each. From puerperal fever Philadelphia, Brooklyn, Washington and Lowell 1 each.

In the two largest greater towns of England and Wales with an estimated population of 9,715,599, for the week ending June 14th, the death-rate was 17.2: deaths reported 3,199: Infants under 1 year 684, acute diseases of the respiratory organs (London) 240, measles 148, whooping-cough 93, scarlet fever 51, diarrhoea 39, fever 36, diphtheria 33, small-pox (Plymouth) 1.

The death-rates ranged from 9.6 in Nottingham to 26.2 in Manchester: Birmingham 17.2, Bradford 17.1, Hull 15.1, Leeds 17.9, Leicester 13.2, Liverpool 20.7, London 16.2, Norwich 14.2, Portsmouth 19.3, Sheffield 21.0, Sunderland 19.5, Wolverhampton 22.5.

In Edinburgh 16.1, Glasgow 25.5, Dublin 25.3.

The meteorological record for the week ending June 21, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.			Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8:00 A. M.	8:00 P. M.	Daily Mean.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 21, 1890.														
Sunday . . . 15	36.10	58.0	61.0	56.0	83	89	N.E.	N.E.	12	O.	C.			
Monday . . . 16	36.26	64.0	75.0	52.0	91	71	S.W.	S.W.	2	O.	C.			
Tuesday . . . 17	30.11	62.0	79.0	56.0	84	77	W.	S.W.	13	O.	C.			
Wednesday . . . 18	29.88	76.0	87.0	64.0	72	44	W.	W.	12	11	O.			
Thursday . . . 19	29.88	70.0	79.0	62.0	47	75	N.W.	N.E.	13	12	F.			
Friday . . . 20	30.16	61.0	67.0	56.0	58	72	N.E.	S.	8	11	C.			
Saturday . . . 21	30.06	64.0	71.0	57.0	72	61	S.W.	S.W.	12	9	O.			
Mean for Week.														

* O., cloudy ; C., clear ; F., fair ; G., fog ; H., hazy ; S., smoky ; R., rain ; T., threatening ; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 12, 1890, TO JUNE 27, 1890.

By direction of the Secretary of War, leave of absence for three months and fifteen days, to take effect as soon as his services can be spared, is granted Captain WILLIAM C. BORDEN, assistant surgeon. Par. 1, S. O. 143, A. G. O., June 23, 1890.

Captain HOWARD CULBERTSON (Retired) died June 18, 1890, at Zanesville, Ohio.

APPOINTMENTS.

To be Assistant Surgeons with the rank of First Lieutenant: FRANCIS R. KEEFER, of Pennsylvania, June 26, 1890, vice Woodward, promoted.

THOMAS U. RAYMOND, of Indiana, June 6, 1890, vice Newton, resigned.

HENRY D. SNYDER, of Pennsylvania, June 6, 1890, vice Wilson, resigned.

ALLEN M. SMITH, of New York, June 6, 1890, vice Matthews, promoted.

ASHTON B. HEYL, of Pennsylvania, June 6, 1890, vice Hall, promoted.

JOSEPH T. CLARKE, of New York, June 6, 1890, vice Porter, resigned.

By direction of the Secretary of War, Major CHARLES R. GREENLEAF, surgeon, will attend the encampment of the Pennsylvania National Guards, at Mount Gretna, Pennsylvania, from the 18th to the 26th of July, 1890, for the purpose of accompanying the surgeon-general of Pennsylvania in his inspection of the camp. Par. II, S. O. 144, A. G. O., June 20, 1890.

Leave of absence for one month, on surgeon's certificate of disability, is hereby granted Captain MARCUS E. TAYLOR, assistant surgeon, with permission to go beyond the limits of this division, and to apply for an extension of five months. Par. I, S. O. 43, Division of the Pacific, San Francisco, Calif., June 13, 1890.

By direction of the Secretary of War, Major SAMUEL M. HOOTON, surgeon, U. S. Army, will visit the encampment of the Maine Volunteer Militia, at Augusta, Me., during the period of its encampment, June 30, to July 4, 1890, inclusive, for the purpose of instructing the medical department thereof in its duties in camp, and on completion of this duty will return to his proper station. S. O. 143, paragraph 5, Adjutant-General's office, Washington, D. C., June 19, 1890.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING JUNE 21, 1890.

GASSAWAY, J. M., surgeon. When relieved at Cairo, Ill., to proceed to New Orleans, La., and assume command of the service at that station. June 4, 1890.

STONER, G. W., surgeon. Granted leave of absence for three days. June 18, 1890.

WASDIN, EUGENE, past assistant surgeon. Granted leave of absence for fourteen days. June 5 and 10, 1890.

WHITE, J. H., past assistant surgeon. To proceed to Savannah, Ga., on special duty. June 8, 1890.

HEATH, F. C., assistant surgeon. Granted leave of absence for fifty-eight days. June 10, 1890.

MAGRUDER, G. M., assistant surgeon. Granted leave of

absence for twenty days. June 2, 1890. Ordered to examination for promotion June 5, 1890.

WOODWARD, R. M., assistant surgeon. Relieved from duty at Chicago, Ill., to assume command of service at Cairo, Ill., June 4, 1890.

CONDICT, A. W., assistant surgeon. Upon expiration of leave of absence to report to medical officer in command at Chicago, Ill., for duty. June 4, 1890.

RESIGNATION.

HEATH, F. C., assistant surgeon. Resignation accepted by the President, to take effect August 31, 1890. June 10, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JUNE 28, 1890.

PAGE, JOHN E., Berryville, Va.

KENNEDY, ROBERT M., Berryville, Pa.

WHITEFIELD, JAMES M., Richmond, Va.

STONE, LEWIS H., Litchfield, Conn.

have been commissioned assistant surgeons in the Navy.

ATLEE, LOUIS W., assistant surgeon, detached from the U. S. S. "Marion," and granted three months' leave.

OBITUARY. HOWARD CULBERTSON, M.D.

Dr. Howard Culbertson, of Zanesville, O., died June 18th, after a week's illness, from results of acute dysentery contracted in the army. He was born in Zanesville in 1835. In 1858 he graduated from Jefferson Medical College, Philadelphia. At the beginning of the Civil War he offered his services to the Union, and in 1862 was appointed surgeon of Ohio Volunteers, and was brevetted lieutenant-colonel in 1865. On February 28, 1865, he was appointed a surgeon of the United States Army, and remained in the service until January 8, 1869, when he was retired on account of disability contracted in the line of duty. He was the author of several works on medicine and surgery, the one "Excision of the Larger Joints of the Extremities," being recognized as a standard authority both in America and Europe. In 1870-77, he was professor of ophthalmology in the Columbus Medical College, and at the time of his death he was assistant editor of the *American Journal of Ophthalmology*, published at St. Louis.

BOOKS AND PAMPHLETS RECEIVED.

Clostridial Nephritis: a Research conducted at Cooper Medical College. By F. V. Hopkins, M.D. Reprint. 1890.

Fifteenth Annual Announcement and Catalogue of Meharry Medical Department, Central Tennessee College, Nashville, Tenn. 1889-90.

A Treatise on Neuralgia. By E. P. Hurd, M.D., Member of the Massachusetts Medical Society, etc. Detroit, Mich.: George S. Davis. 1890.

Contribution à l'Etude de la Syringomyélie. Par le Docteur I. Brühl, Ancien Interne des Hôpitaux de Paris. Paris Aux Bureaux du Progrès Médical. 1890.

University Medical College of Kansas City. Formerly Medical Department of the University of Kansas City, Missouri. Tenth Annual Announcement and Catalogue of Session 1889-90.

Lecture.**INFLUENZA IN MASSACHUSETTS.¹**

BY GEORGE R. SHATTUCK, M.D., OF BOSTON.

MR. PRESIDENT AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY: As you well know the time-honored Annual Discourse takes place as usual to-morrow, on the last day of this meeting, just before the annual dinner, and is unquestionably looked forward to this year with all of the usual interest. That an additional claim should be made upon your time and attention this evening is an innovation, and as such requires some words of explanation.

At the annual meeting of the Society in the year 1858 the treasurer reported that, "the Society has come into the enjoyment of the Shattuck legacy, amounting to \$9,166.87, the income from which will contribute largely towards meeting the expenses of publication to which it is especially designated." Since that time this fund has remained with the Massachusetts Hospital Life Insurance Company, invested in one of that company's annuity policies, and has yielded interest varying from 8.25% in 1866, and during the period of inflation just after the war, which was the highest rate, to 4% which has been the rate annually during the last ten years. It appears from the treasurer's accounts, as your present treasurer kindly informs me, that until 1872 the income was expended for printing, binding and distributing the "Annual Communications." In 1872, however, the entire income is entered on the credit side of the funds as "loaned to the Massachusetts Medical Society." This arrangement was continued from year to year until 1877, when, the unusual necessities of the Society apparently having ceased, the former use was renewed and the income again paid for printing and distributing the medical communications.

In 1878 a prize was offered by the Society for a prize essay, which was gained by Dr. Thomas Dwight by a very admirable piece of work on "Identification of the Human Skeleton"; and the income was devoted to the payment of the award and to the publication and distribution of this essay. During the subsequent years it has been expended as previously upon the annual medical communications, except in the years 1886, 1887 and 1888, when it was allowed to accumulate, and a prize of \$1,000 was offered for competition at large for an essay worthy of a prize, on "The Climate, and its Modifications as influencing Health and Disease, or on any of the diseases of the inhabitants of New England, or on any kindred subject." This prize failed to excite the interest and stimulate the competition which was anticipated from the offer of so considerable a sum of money, with such a wide range of subjects, and no award was made. A result which emphasized observations elsewhere made as to the diminished zeal for the capture of prizes, whether baited with a round sum of money or with a long established reputation stamped upon a medal. The time when the possession of a Boylston Prize was the almost necessary passport to subsequent professional advancement and reputation in this immediate community is in a somewhat distant past. Perhaps the appearance on the scene of the professional prize-taker has had the same limiting effect as the professional influence has had in other contests.

Be the reasons what they may, prizes seem no longer to attract as formerly.

In the years 1806 and 1807 no less than three of the Boylston Prize Medals were secured by Dr. Shattuck's pen, but in 1888 your committee came somewhat reluctantly to the conclusion that what our forefathers termed in 1807 the "beneficent and laudable view of improving the art of medicine, and the exaltation of practitioners to bring those talents to light which might otherwise be useless to the community," were not best subserved by the offer of prizes, and accordingly your council in 1888 voted:

"That the Committee on Publications be instructed to provide for a lecture, to be called the Shattuck Lecture, on some subject in accordance with what is specified in the will of the late Dr. Shattuck, the lecture to be delivered at the annual meeting of the Society."

In accordance with this vote the Committee in charge proceeded to its execution, and, apparently, impressed with the feeling that it was not intended that only the sons of the fathers should descend upon the children, they appointed me to deliver the first Shattuck Lecture before the Society.

I confess I should have been very glad for your sakes and for that of the Lectureship had the choice fallen on a more competent person, but neither my appreciation of the courtesy of your Committee nor my respect for the memory of the benefactor, after whom the Lectureship is named, would permit me to decline.

You, therefore, see why it is that you are called upon to listen to a lecture on the evening of the first day of the annual meeting, as well as to the discourse on the second day; I hope the process will not serve simply to increase your respect for the more carnal provisions of the Cotting Fund.

As the first to discharge the duties of this lectureship it may be thought proper and pardonable if I ask you to accompany me a little while in a further brief consideration of the circumstances which gave rise to its foundation, and of the scope of its functions, thus leaving a clearer field to the legitimate and more important duties of my successors.

The fund bequeathed by Dr. Shattuck to the Massachusetts Medical Society was one of three equal funds left by his will to three different societies: the other two being the Massachusetts Society for Promoting Agriculture and the Massachusetts Charitable Mechanic Association. The provisions of the bequest in behalf of this Society were that it "should apply the net interest and income of the same from time to time, in the discretion of the Society, or of its government, to the collection and publication, annually, by some suitable person or persons, of historical or other essays on the climate of said Commonwealth, or the diseases of its inhabitants, and on such other subjects as the said Society or its government may select."

The bequest to the Massachusetts Society for Promoting Agriculture — the oldest incorporated society but one in this State — provided that "the net income of its fund should be applied from time to time, in the discretion of the Society or its government, to diffuse a knowledge of the proper admixture of soils, so as to raise the greatest quantity of food with the least labor and expense; to encourage the raising of trees for fuel and ship-timber; and generally to disseminate a knowledge of practical agriculture."

The bequest to the Charitable Mechanic Association provided that "it or its government should apply the

¹ Delivered before the Massachusetts Medical Society June 10, 1890.

net interest of the fund from time to time, at discretion, to encourage improvements in architecture, and especially in the mode of constructing cheap and convenient dwellings for the poor, and also in defraying the expense of instructing mechanics' apprentices in the knowledge of the useful arts."

As has been shown by the hasty review of the uses to which this Society has put the income of its funds, the medical objects which the donor had in mind and at heart, have been, to a considerable extent, realized. The Society for Promoting Agriculture, with a total fund of about \$120,000, has done much for the farmer of the State of Massachusetts in improving the breeds of various domestic animals by the importation of foreign stock, and in other ways has disseminated a knowledge of practical agriculture; but I cannot learn that it has caused studies to be made of the proper admixture of soils, so as to raise the greatest quantity of food with the least labor and expense, or has encouraged the raising of trees for fuel and ship-timber. The generation which has grown up to man's estate since this bequest was made has solved those questions for itself in a different but a very practical way — by moving West to the plains, and to the forests of Michigan and Puget's Sound; but even there at no distant date, if things go on as they have done, if there is no rotation of crops and unchecked forest fires, such information as Dr. Shattuck thought desirable for Massachusetts in 1854 may not be superfluous.

On the other hand, singularly enough, with the increased knowledge of the diseases of domestic animals and of their relation to those of man, and with the development of veterinary science, it has come to pass that this same Agricultural Society, through Drs. Peters and Ernst, is employing a portion of its income in an investigation of tuberculosis — a disease than which there is none more prevalent, none causing so many deaths in this State and throughout New England — and is thus doing work of a kind which, thirty-five years ago, could only have been expected to emanate from medical sources.

The Charitable Mechanic Association has hitherto, I believe, done little or nothing towards realizing the specific wishes expressed by the testator, and certainly nothing especial towards encouraging improvements in the mode of constructing cheap and convenient dwellings for the poor. But other agencies have, in a certain measure, brought about this very desirable end, and capital, philanthropy and hygiene have all found a remunerative account therin.

From the last annual report of the trustees of the Peabody homes for the poor in London, in which especial attention was given to sanitary construction, it appears that the birth-rate in these homes is 8.72 per 1,000 above the average, the infant mortality is but a little over half the average, and the total death-rate is 1 per 1,000 below the average. Yet these buildings pay a moderate percentage upon the amount invested, although their construction can hardly be called cheap. Here in Boston there are now numerous tenement-houses, which fairly deserve the name of apartment-houses, occupied by poor people, where the sanitary conditions are good, the standard of health is high, there is no overcrowding, and which pay fair returns to the owners. There is also a Co-operative Building Association which aims to secure the ends sought for in this legacy, and thus indirectly lowers the death-rate of the city.

These bequests were not large — even for the day in which they were made, certainly not for ours — and were individually smaller than others proceeding from the same source, but they were eminently characteristic of the man, eminently indicative of his interests during life and of the direction which his hopes for the future took. He was not a sentimentalist, but nothing human was foreign to him; he was at home with all sorts and conditions of men, he had a constant interest in and sympathy for humanity. He knew the farmer, he knew the mechanic, he knew the homes of the poor. His father, a graduate of Harvard, a man of large frame and powerful physique, spent his strength as a country doctor in the last century, going on horse-back over the hilly regions of the northern part of Worcester County, succumbed to the exposure and labor of his profession at the early age of fifty-one years, and leaving his son an orphan at the age of eleven years. Hence, he knew, too, what it was to make one's own way; he knew — to use his own quaint expression — the value of the "healthy stimulus of prospective want," but he also knew the value of encouragement and of a helping hand held out at the right moment.

He himself graduated at Dartmouth College. As a medical student part of his time was spent at the University of Pennsylvania, where he took his degree in 1807. He obtained a knowledge of country practice by studying with Dr. Amos Bancroft in Weston, and of city practice in connection with Dr. Danforth in Boston. He had previously received a medical degree from Dartmouth, and subsequently a third medical degree from Harvard. So that, although not having studied abroad, his medical education was, for that time, a broad one.

While in Philadelphia, as his letters written from there show, he undoubtedly came under the influence, to some extent, of Dr. Benjamin Rush, who was then at the height of his reputation as a teacher, and who was a large figure in the society of the time, and he was one of comparatively few from this neighborhood who came directly in contact with Rush. Of Rush, Dr. Holmes said, addressing this Society in 1860: ²

"If I wished a student to understand the tendencies of the American medical mind, its sanguine enterprise, its self-confidence, its audacious handling of Nature, its impatience with her old-fashioned ways of taking time to get a sick man well, I would make him read the life and writings of Benjamin Rush. Dr. Rush thought and said that there were twenty times more intellect and a hundred times more knowledge in the country in 1799 than before the Revolution. His own mind was in a perpetual state of exaltation, produced by the stirring scenes in which he had taken a part, and the quickened life of the time in which he lived. It was not the state to favor sound, calm observation. He was impatient, and Nature is profoundly imperturbable. . . . Dr. Rush must have been a charming teacher, as he was an admirable man. He was observing, rather than a sound observer; eminently observing, curious even, about all manner of things. But he could not help feeling as if Nature had been a great deal shaken by the Declaration of Independence and that American art was getting to be rather too much for her — especially as illustrated in his own practice. He taught thousands of American students, he gave a direction to the medical mind of the country more than any other one man, perhaps he typifies it better

²Currents and Counter-Currents. Annual Meeting, May 20, 1860.

than any other. It has clearly tended to extravagance in remedies and trust in remedies, as in everything else, etc., etc."

Dr. Weir Mitchell, his fellow-townsman, on the other hand (*A Commemorative Address delivered at the Centennial Anniversary of the Institution of the College of Physicians of Philadelphia, 1887*), says of Rush:

"With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive, and mutinous nature of a man, proud rather than conceited, got the better of the principles by which he honestly strove to guide his conduct. . . . How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry. . . . He was a statesman, a scholar, an army surgeon, a punctual and careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled, unaided by secretaries or modern means of condensing and regulating labor; one such suffices most men."

Dr. William Pepper, another Philadelphian, says of Rush:²

"Rush was evidently a perfectionist. His enthusiasm over the possibilities of human nature continually breaks out into expressions of sincere exuberance. I fear he drew his inspirations more from the experience of his own nature, refined and elevated, which required no excitement but the claims of duty, and no pleasure but the pursuit of knowledge and truth, than from the observation and study of men as they actually exist."

"The truth is that Rush was at all times and in all places and before all else a great physician. He had entered public life from a sense of patriotic duty; he had labored for the improvement of society because he was irresistibly impelled by his large humanity; but he threw himself into the service of medicine with passionate intensity. Ramsay, a favorite pupil and intimate friend, tells us that Rush wrote to him: 'Medicine is my wife, science is my mistress, books are my companions, my study is my grave.'

Dr. Shattuck shared to some extent the tendency of his day to polypharmacy; he did not eschew remedies of large bulk, he did not always think it necessary to stoop to tickle the palates of his patients, he had confidence in medicines, as he had in other methods of interfering with disease, and used them with courage when he thought interference necessary. But I do not think, in his case and in that of many others in New England, of whom he was a good type, that this was so much because he thought "there were twenty times more intellect and a hundred times more knowledge in the country in 1799 than before the Revolution"; so much because he "felt that Nature had been a good deal shaken by the Declaration of Independence, and that American art was getting to be too much for her"; in other words so much due to the

influence of the teaching of Rush — as it was due to a mental and moral inheritance typical of his time. His father, as has been said, had carried on a guerrilla warfare with disease over the hills and valleys of Worcester County for twenty-five years until he fell before it himself; his grandfather, a farmer, at the age of sixty-five shouldered his gun and followed the British on the 19th of April, 1775, from Lexington to Cambridge, having previously marched from Littleton; and his great-grandfather, also a Harvard graduate, was an Orthodox clergyman whose life was a contest with false doctrine, with the flesh and the devil. This was not a paternity for a contemplative offspring, for an expectant generation, for a hand-folding philosophy. It was in the blood to be up and doing, to wrestle with some antagonist and to strive to prevail over him; whether the antagonist took the form of a vigorous climate, of depravity of the spirit, of unjust taxation or of weakness and error on the part of the flesh. It was just possible for the strong men of that generation to sit down and see Nature lead, but not to restrain themselves from pursuing and taking hold of her when she led us it seemed to them astray. It was their duty to smite the Philistine, not to leave him the chances of the slow corrective influence of time.

The self-determining power of the will, which had accomplished much in the preceding two hundred years, had not abdicated in the early part of this century, nor yet had it adopted the gentle disguises of Christian Science, of the mind-cure or of hypnotism. Bad medicine was good for disease, as self-torture was good for the erring. We take both our religion and our medicine more comfortably and less seriously. But then he who took a distasteful remedy had placed his comfort as a precious sacrifice upon the altar of health. The nose of the patient as of every one else must be kept to the grindstone.

It was felt that the doctor's duty was to stand between the patient and the disease, but not *always* with the apothecary at his side, as appears from old letters of Dr. Shattuck's which have been preserved. A young clergyman, whose first vigor was spent, is sent on a horseback journey with a companion. Another clergyman, whose delicate wife was suffering in 1825 from some early form of tuberculosis, is advised: "If your wife can conform to rule in diet and exercise and exposure she may be restored. If the trams are too galling to her free agency she slackens the progress of cure and renders her situation still precarious. Let her case terminate as it may I feel that I have honestly intended her service. I am sorry that instinct rather than reason governs one so elevated among the national tribes." And a year later, after the death of this patient who lived at a distance: "I became quite convinced when I learned her impatience under the use of the only earthly means that could serve her (namely, warmth, rest, diet, good nursing, with the healing hand of time) that she could not attain health more."

To a college professor, who asks as to his probable future health and ability to continue in the discharge of his duties, notwithstanding an impaired constitution, Dr. Shattuck wrote in 1826: "Your diet, wearing apparel, exercise in the open air, warmth and ventilation of your apartment, bathing (medicated, warm and shower), attention to an easy state of bowels, and attention to a wholesome variety in your

² Address delivered before the American Medical Association, June, 1889.

intellectual labor and to a healthful alternation between labor and rest, are, in my opinion, adequate remedies to secure you the possession of a working power equal to all the duties of your professorship. I would underwrite at a less rate at this time on your continued life and power to labor ten years to come, then I should have felt justified in doing it at when you were here a year ago."

In another letter of advice I find the following: "You must turn Quaker, and remain silent; give your lungs rest and they will recover. After all, careful nursing is the most essential to you, pediluvium friction, diet, etc."

Yet such expectancy, such appreciation of the *circumfusa* and *ingesta*, such recognition of self-limitation proceeded from the same pen as: "Enquire of Mussey his opinion of the expediency of maintaining over your entire chest a pustular eruption for at least two or three months"; or as a prescription for thousand pills, three pills every day for a year, — a prescription the remembrance of which was treasured up unto the detriment of the third generation when applying for a hospital appointment. A compound prepared with unauthorized elegance for a rich and influential client at his request, found its way out of window instead of down the patient's throat, and the genuine stuff was procured and submitted to. It is evident that the patient was held in view for treatment quite as much as the disease. Yet, when he wished to endow a professorship at the Harvard Medical School, it was a chair of *Morbid Anatomy*, not of *Materia Medica* and *Therapeutics*, which was selected.

It is true that civil commotion stirs up thought and quickens mental activity; but, in spite of this, I am constrained to believe that the remote influence of Calvin had quite as much to do with the best of medical practice during the first half of this century in New England, as had the immediate teaching and example of Rush.

At the time the bequest which gives rise to this lectureship was made, the study and description of disease as exhibiting itself in this Commonwealth and in New England was in some ways easier and in some ways more difficult than at the present time. There was a much more homogeneous population, habituated to its surroundings and to the climate. The pursuits were less varied, the effects of competition and nervous strain less great. There was less crowding and less movement of individuals to and fro. There was less division of medical practice; there were more doctors, I think I may say — at least at the centres of population — who knew *all* about more people than now, and not merely about one member of a family or perhaps only about one organ of one member of a family. The trusted physician in the city was then, as is happily still the case in some parts of the country, the adviser, not merely the prescriber, for the family; he was in many ways the guide, the counsellor, the friend. His memory and his note books furnished something nearer the theoretical bureau of domestic anthropometry than anything we have at present.

On the other hand there were lacking the abundant facilities for rapid exchange of medical thought and observation all over the world which exists now; and there were lacking altogether or only existing in a small way, the three great sources for the study of the development, the course and the variations of disease in a given population, namely, boards of health,

hospitals and a trustworthy registration of vital statistics.

The Massachusetts Hospital was the only hospital for general diseases in New England; our State Board of Health was not started until 1869, and the registration of vital statistics, which has been enlarged and improved in recent years, was first undertaken by the State in 1842 and was much less perfect than now.

Under the circumstances, therefore, which existed in 1854 and the immediately preceding years, there was a *raison d'être* and a promise for utility in a bequest like this of Dr. Shattuck's, such as perhaps would not suggest themselves, at least not with as much force, to-day. Certainly to one who was fond of and somewhat sanguine about the compilation of facts and figures; who for many years was President of the American Statistical Association; who was a friend and supporter of Lemuel Shattuck — one of three commissioners, as Dr. Walcott reminded you last year, appointed in 1849 under the authority of this Commonwealth to make a sanitary survey of the State — to such a one the objects for which he designated this bequest, must in the early fifties have appealed with peculiar force.

Every well regulated hospital may be regarded as a post-graduate school whose courses, if rightly followed, should make some additions to the reliable records of clinical observations and to the sum total of the knowledge of disease, in its neighborhood at least. In comparison with the single hospital thirty-five years ago, one finds — in addition to the large City Hospital of Boston, the Carney Hospital at South Boston, and to all the small incorporated special hospitals doing an admirable work in this city — that Lowell has two hospitals, one organized first as a Dispensary (?) in 1840, the other incorporated in 1867; Lynn one hospital, opened for patients in 1883; New Bedford two, one opened in 1873, the other in 1885; Cambridge one, incorporated in 1871, and opened for general patients in a new building in 1886; Newton one, opened in 1886; Newburyport one, opened in 1884; Haverhill one, opened in 1882; Salem one, opened in 1874; Quincy one, opened in 1890; Taunton one, opened in 1889; Fall River one, opened in 1888; Worcester, a City Hospital, opened in 1871, and a Memorial Hospital opened in 1888; Clinton one, opened in 1889; Springfield, a City Hospital since 1879; Pittsfield, a hospital since 1884; North Adams one opened about the same time. In addition to these already opened and at work, plans are under discussion for hospitals in Malden, Marlboro' and Plymouth.

With the growth and enlargement of some of these hospitals, which the future is sure to bring, why may not fresh contributions be expected from their physicians as to the effect of locality, of certain occupations, of certain race admixtures upon health and diseases. The introduction of the Celtic element, which went on so vigorously during the middle third of this century, has had, as we all realize, an enormous influence upon the vital statistics of Massachusetts; the effect of the French Canadian and the Italian immigrations will probably be less, but just what the future alone can show. The race admixture at the Boston City Hospital is already so marked that a smattering of several foreign languages is by no means an unnecessary qualification on the part of those in attendance, and

the behavior of the Latin race under disease offers a marked contrast to that of the Anglo-Saxon.

You are all aware how much our State Board of Health has done for and through the profession in its annual publications in regard to the subjects provided for in this bequest; with increased liberality on the part of the State its work is constantly increasing; as a new progressive step you will be glad to know there is in contemplation the appointment of a salaried inspector, whose duty it shall be to investigate and report on the causes and conditions of local epidemic outbreaks, in the manner in which this has been done by such men as Ballard, Buchanan, Thorne and Radcliffe, in the service of the English Local Government Board. Here is a field of honorable medical ambition for the right men.

(To be continued.)

Original Articles.

DISORDERS OF SLEEP: INSOMNIA.¹

BY CHAS F. FOLSON, M.D., CO-REFEREE,
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WHEN shall we use hypnotics? In acute disease, particularly fevers, sleep is often a necessity, reducing the activity of the heart, removing more waste, and quieting the general excitability of the nervous system. In chronic disease there is frequently the same temporary need. In incurable disorders with pain and discomfort, in the restlessness of senility, hypnotics and narcotics — and used freely in the last years of life — are almost the chief justification of our service. Often in mental disease they are, for a time, all but indispensable. In some neurotic people their occasional use can hardly be avoided. In acute nervous and mental disturbance from profound shock, full and continued uses of narcotics may dispel most threatening symptoms. The individual must, of course, be taken into consideration. Many can be depended upon to use hypnotics only as directed by their physician; others can no more be trusted with them than certain persons with alcohol. Something of slight intrinsic hypnotic value may be intensified by its mental effect, and I am sometimes deliberately asked for a prescription upon which to build a mind-cure. It is often imperative to prescribe a hypnotic, where it is best that a decided hypnotic effect should not be got. For this purpose a somewhat unpleasant drug is better than an altogether agreeable one, and the prescription which I use consists of a few minims of paraldehyde in a drachm of chloroform water. This can be repeated in the night several times and be continued without harm.

In some conditions, even with acute maniacal symptoms, it is better to let the patient lie awake almost absolutely for two or three nights than give the amount of narcotics necessary to produce sleep.

The multiplication of sleep-producing drugs has its advantages in trained, skilful hands to meet idiosyncrasies of temperament and varying conditions of disease. But the immense production and widespread use of them in the last few years must have done incalculable harm.

Very many people — highly educated as well as ignorant — firmly believe that if there is not a specific

¹ A paper read at the meeting of the Association of American Physicians, Washington, May, 1880. Concluded from page 6 of the Journal.

for their malady the reason is that it has not been brought to light; and they not only demand repeated trials of useless remedies but assiduously follow enticing promises in regard to those that are even injurious. When our advice does not meet their fancies in that regard they continue their search for what they crave.

The greater one's experience, the more is he satisfied how little he can do as compared with what the community insists upon expecting, although more and more convinced of the great value of that which can be done, of the harm of overdoing, of the need of minute study in each case, and of the vagueness of general rules of treatment. The chief indications in insomnia are: To give hypnotic drugs rarely and only in cases when other measures have failed; to use, as far as it is possible, the small dose, repeating as needed, so as to avoid the over-action or the cumulative effect of large doses; to be satisfied with the least amount of sleep that is safe if produced by medicine; to avoid drugs as a rule, except for euthanasia, when the mental condition is not such that all the after-effects can be noted; to bear in mind the fact that hypnotics given to produce sleep may increase wakefulness; to be on guard for unpleasant or toxic results when any drug is given in sufficient dose to produce prolonged and profound sleep; to give the large dose when it is indicated; to not expect the same action or tolerance of new medicines in sensitive private patients as in hospital practice.

Of hypnotics, there are probably none that can be continuously used for a long time in sufficient doses to control troublesome insomnia without occasional dangerous symptoms or unpleasant after-effects, although I have no doubt that many of the accidents reported as due to them are rather coincident with them than consequent upon them. Most cases, however, are not intractable to treatment, and many respond readily to domestic remedies, like skullcap, thoroughwort, sage-tea, glycerine, or hot punch, without the physician being called, or perhaps their restlessness has been controlled by hyoscyamus, valerian, cannabis Indica, camphor.

The advantages of spirits, wine, beer, ale, porter (including some of the so-called malt extracts), koumyss, matzoon, are well known in old age, conditions of exhaustion, fevers, and generally where a cardiac depressant must be avoided; especially if supplemented by vaso-motor stimulants, like ergot, digitalis, strychnia, coca, cocaine. A glass of champagne often acts like magic in the sleeplessness of a dilated heart. A few bottles of beer at bedtime may control persistent and obstinate sleeplessness which has yielded to nothing else. But the habitual necessity of alcohol to produce sleep in brain-workers indicates the nearness of the danger line. The disadvantages of alcohol are well-known and readily guarded against.

The preparations of opium are indispensable in many cases — with pain, in old age, in many forms of heart disease. I have not found the common caution against opium in pulmonary and renal disease valid, and probably no other drug can be made to so happily meet the indications of so many conditions, except for the grave danger of the morphine habit. Kraft-Ebing names it justly a tonic to the asthenic brain. In euthanasia, its value is shared with only ether and chloroform.

The bromides diminish the reflex excitability of the medulla, and are vaso-motor excitants. Their best

therapeutic effect, always avoiding bromidism, is got, as hypnotics, from divided doses given through the day or evening, whether in large quantity or small. Alone or combined with other medicines they have a wide usefulness. The debilitating influence from them may in some cases be, partly at least, met with iron or bark. By virtue of obstructing the heart's action, and producing a certain degree of muscular depression, they are not without objections for continued use, or, in some cases, occasionally.

The great need of an unobjectionable hypnotic led to constant laboratory research, and the final discovery by Liebreich of *chloral-hydrate*,⁴ Eickhoff's *schlafmittel* *karb. lösyr.*, the most powerful of pure hypnotics, having also some influence on pain. In sufficient dose it rarely fails. Alone or combined with bromides or morphia, it used to be, until the introduction of paraldehyde, the common last resort when other narcotics had failed. Its depressing effect on the heart, respiration and vaso-motor centres, which, perhaps, includes its toxic or irritant action on the kidneys, and the danger of the chloral habit, with persistent wakefulness and mental enfeeblement, constitute the risks in its use.

Croton chloral, the butyl-chloral-hydrate, or, chemically, the chlorated aldehyde of crotonic acid, although not a cardiac depressant, is, in all other ways, so inferior to chloral-hydrate, besides being not readily soluble in water, that it is rarely used except with trigeminal neuralgia, in which it is less efficacious than other drugs.

A less depressing hypnotic being sought for, the fat series came next, paraldehyde, amyl-hydrate, urethan, hypnone.

Paraldehyde,⁵ a polymeride of ethylic aldehyde—long thought second only to chloral-hydrate in power as a hypnotic—has much less depressing action on the circulation and respiration. It is especially valuable in conditions of mental excitement, where the duration of sleep may be prolonged by adding morphia. The physiological action is first on the cord, and then on the medulla. Toxic doses (ten grammes or more) produce a sinking of blood-pressure and slowing of the heart beat; doses of six to eight grammes having been observed to give rise to nausea, headache, confusion, vertigo, and weak pulse. In five cases Berger found material reduction in the quantity of urine. In safe doses it is not anesthetic or analgesic. To get a definite hypnotic effect, the dose must be increased. Its acid taste, and the disagreeable persistent odor from the breath are objections to its use, and even when largely diluted it is often objected to, on the ground of its being a gastro-intestinal irritant.

The temptation to its habitual use is less than in alcohol, morphia, cocaine, and chloral; the symptoms produced being tremor, confusion, impaired memory, diminished intelligence, etc.

Dose, two to four grammes, which, if necessary, may be gradually increased to eight, and repeated once or twice in the night.

Amyl-hydrate,⁶ a tertiary amylic alcohol, an oily,

⁴ An abstract of recent articles on the new hypnotics was intended as an appendix to this paper, but the amount of material (over one hundred foolscap pgs) was too large to justify its space, and its appropriateness here whether in full or condensed has seemed to me at least doubtful.

⁵ Albertoni, Berger, Butler, Cervello, Cervello and Valenti, Clouston, Fawcett, Gellhorn, Henocque, Hodgson, Kenniston, Kraft-Ebing, Liebreich, Peretti, Quinquared, Rank, Rothe, Strahan, Tepehew, v. Noorden.

⁶ Buschan, Dietz, Egasse, Eshoff, Jolly, Griffith, Gürthner, Lehmann, Liebreich, Mason, Mayer, Riegel, Savas, Scharschmidt, von Mering, von Mering and Thierfelder, Willis, Wurtz.

colorless liquid, appears to stand in hypnotic power below chloral-hydrate, and above or below paraldehyde, according to different observers, but with even less depressing action on the heart than the latter. It may be used in about the same dose as paraldehyde, being not so soluble (1 to 19 water, freely in alcohol), and with a much less disagreeable taste and odor. Its physiological action is directly on the cerebrum, and later on the medulla. The toxic effects from it, of headache, nausea, weak pulse, are less marked than in paraldehyde, and it is less a gastro-intestinal irritant, although sufficiently so to often require its administration by rectum.

Urethan⁷ (ethylic carbamate) a mild hypnotic in doses of twenty grains, is at times useful, and may from its ready solubility be given hypodermically. It is without especial depressing action on the heart, except in enfeebled persons. It has, like all rather mild remedies, proved in some cases uncertain in its effects, but is useful and ordinarily without disagreeable after-effects.

Hyoscyamine⁸ isomeric with atropine, in doses of $\frac{1}{2}$ mgm. of the sulphate, which may be given subcutaneously, controls moderate mental excitement and sleeplessness. In larger doses similar toxic effects to those of atropine are observed, sometimes with muscular prostration, which may reach an alarming degree. Of some value in hysteria with violence, its use is very limited.

Hyoscine,⁹ also an alkaloid of hyoscyamus, is used as iodohydrate, chlorhydrate, and, preferably, hydrobromate, also hypodermically, in doses of $\frac{1}{2}$ to $\frac{1}{4}$ even 1 mgm. It has a limited usefulness, especially in maniacal excitement, violent hysteria, delirium tremens, insomnia with agitation, in the insane and aged. The dose needs to be increased somewhat rapidly for prolonged use, and a slight excess in the quantity given may produce unpleasant toxic effects, which may even come from $\frac{1}{2}$ mgm. In a certain proportion of cases not only is there no quieting effect from the drug, but the restlessness is increased.

Chloralamide,¹⁰ or more properly chloral-formamide, produced by adding anhydrous chloral to formamide, is decomposed again in aqueous solution (1 to 9) if above a temperature of 60° C., or in crystals if above 115° C. It is also decomposed by alkalies and alkaline carbonates. It is, therefore, well to give it in slightly acid solution, with spirit, or as an elixir, thereby sufficiently disguising its bitter taste. It is claimed that it possesses all the advantages of chloral-hydrate, and on account of the stimulating properties of the formamide, without its depressing action on the heart, a fact verified by the sphygmograph, the comparative dose being as 3 to 2. The danger from the larger dose, over 30 or 40 grains, is less than in chloral. Disagreeable after-effects are much less common. Some observers value chloralamide most highly, while others regard it as in no way deserving especial praise. In my experience, with only the small dose, it has done well. If it shall be proved, after full trial, to be safer

⁷ Adam, Denme, Griffith, Sansom.

⁸ Buschan, Egasse, Geiger, Hesse, Horn, Ladenburg, Lemoine, Reichard and Duncanson, Lippmann, Pfeiffer, West, Will, Wurtz.

⁹ Budde, Edelfeld and Biling, Egasse, Erb, Fischer, Githens, Gley and Rondeau, Hahn, Kny, Kourad, Krauss, Ladenburg, Magnan and Lefort, Maret and Combemale, Malibière and Lemoine, Mitchell, Peterman and Langdon, Pitcairn, Rechard, Siligó, Thompson, Weber, Petersen and Schäfer, West.

¹⁰ Alt, Aude, Cope, Egasse, Hagemann and Strauss, Hagan and Hüffer, Kalisch, Kny, Langgaard, Leech, Letton, Mehring, Norman, Osler, Paterson, Peiper, Rabow, Reichmann, Robinson, Schaffer, Setton, Strahan, White, Wurtz.

than chloral, and more certain than the other pure hypnotics, as it is claimed to be, its cheapness is in its favor for general use.

Sulfonal,¹¹ diethylsulphondimethylmethan, is a less powerful hypnotic than chloral, with even less influence on pain, but without so much, although with slight, depressing action on the heart. From its difficult solubility, the physiological action is slowly produced; a single dose may be efficient for two successive nights, and there is risk of the cumulative effect if the dose is too often repeated. It may be given in compressed tablets or wafers, or dissolved in spirit. In doses of 30 grains or less it is, in the main, safe, although I have seen 20 grains given each night for several weeks in a girl of sixteen produce stupor, and 20 grains, three times a day continuously, to a strong male adult, cause ataxia, tremor, and mental apathy. It has been found not always certain, and, in overaction, with an after-effect of somnolence, fatigue, depression, lack of appetite, which, from an over-dose, may amount to semi-coma and cardiac depression. Given in doses of 5 grains, and repeated, if necessary, two or three times, or of 10 or 20 grains, and perhaps repeated, it has proved in my hands, a hypnotic of great value in producing sleep which is refreshing and resembling the natural. When care has been taken not to give it too often or in too large doses, I have never seen any untoward results from it. In the case of a rather delicate person, 150 grains produced sleep with stupor for ninety-six hours, but no other unpleasant symptoms, except some lassitude and a sense of discomfort in the head. It is the most important and widely useful of the new hypnotics.

Hynpone¹² (acetophenone, phenyl-methyl acetone), one of the aromatic series of acetones, although praised by Dujardin-Beaumetz, has proved in the hands of most investigators of little value as a hypnotic, of unpleasant taste, and depressing to the respiratory and cardiac centres.

Ural¹³ (chloral-urethan) is less potent than chloral, and more so than urethan. It is very bitter, soluble in alcohol, and but little so in water. In doses of more than two grammes there may be transient headache and fatigue.

Somnal¹⁴ (ethyl-chloral-urethan) contains four atoms of hydrogen and two of carbon more than chloral-urethan (ural). It appears to have no especial advantage over chloralamide, except that it is more soluble. It has somewhat greater hypnotic power than ural. Its composition is not regarded as certain or its action sure.

Acetal¹⁵ (diethylacetal) is an acrid hypnotic without advantages to compensate for its being a gastrointestinal irritant.

Methylal,¹⁶ an acetal derived from formaldehyde and methylalcohol, a volatile liquid freely soluble in water, of fragrant and aromatic odor, almost tasteless, may be inhaled or given by mouth and hypodermically. It has the high authority of Kraft-Ebing as being a safe, certain hypnotic, useful in some forms of

insanity with excitement, and especially in delirium tremens, for which he considers it the best hypnotic known. He uses 0.1 grammie with 1 grammie water, hypodermically, repeating every two hours if necessary. The dose internally is m_l . 30 to 3ij. The depressing effect on the circulation is slight, if any, and he has not observed any disagreeable after-effects. It is contra-indicated in conditions of active cerebral hyperemia. Kraft-Ebing is in doubt how to explain the efficacy of the extremely small dose used by him unless it acts indirectly rather than as a direct hypnotic in producing sleep. Lemoine gives two grammes subcutaneously.

Phenacetin,¹⁷ para acet-phenetidin, almost insoluble in water, soluble in alcohol, almost tasteless, may be given like sulfonal, in wafers and compressed tablets, as a powder or with brandy. As an antipyretic and antineuritic it is not as potent as antipyritin and antifebrin, but it is much less a cardiac depressant. In the insomnia of overwork, of nervous irritation, in febrile states, or from headache, it is a hypnotic of great value, in doses of five or ten grains, repeated if necessary. In sleeplessness of intense neuralgia, less than a grammie repeated two or three times, as needed, is not likely to be effectual, the fact having been first ascertained that there is no intolerance of the drug.

The possible analin derivatives of, which phenacetin (para-aethoxy-acetanilid), acetanilid and methacetin (paramethoxy-acetanilid) have thus far alone been used in medicine, together with numerous known compounds of not ascertained value, indicate the boundless possibilities for the future in this direction.

Acetal, ural, hynpone and somnal do not seem to me to have sufficient therapeutic value to justify their existence. Hyoscine and hyoscyamine have a limited range. Of the other hypnotics we must trust somewhat to experience in ascertaining which is least likely to disagree with a given patient; and to one already discouraged by long illness an unsuccessful trial of a new remedy may be so unsuccessful as to be disastrous. Personally, I use them sparingly, and as indicated. There are cases where very large doses of powerful hypnotics must be used to produce sleep or else alcohol freely. On the other hand, most patients sleep better than they think and many sleep enough who believe that they sleep scarcely at all.

A GYNECOLOGICAL CASE.¹

BY W. S. EVERETT, M.D., HYDE PARK.

On the second day of May, 1888, a young, very attractive and intelligent lady, hitherto a stranger, called at my office for advice and direction, if not treatment. Her look was anaemic; her expression was troubled; her countenance was pale, colorless, like that of one who has been blanched from loss of blood. Her bowels were constipated, her appetite was poor.

This is the history that she gave: Her general health had been fairly good in her childhood, and until the menses appeared. Since that time, a strain of excitability or of depression had been worked into her history, that, accompanied by the disturbance of the menstrual molimen, had been the occasion of a

¹¹ Borsigmann, Cramer, Fischer, Frickel, Funisci, Raimondi, Grifith, Hennequin, Kast, Kisch, Knoblauch, Landau, Lieberlich, Müller, Otto, Rabbe, Bardet, Dujardin-Beaumetz, Siago, Schneay, Schwalbe, Steiner.

¹² Bardet, Dujardin-Beaumetz, Friedel, Hirt, Kamenkski, Kny, Kraepelin, Krause, Laborde, Mairet and Combemale, Norman, Rotter, Seiffert, Tschirch.

¹³ Alphonse, Bischoff, Campari, Poppi.

¹⁴ Egasse, Paul, Radianer, Robinson.

¹⁵ Berger, Hiller, von Morling.

¹⁶ Halles and Boubila, Kraft-Ebing, Lemoine, Mairet and Combemale, Matrokhin, Personal, Popoff, Richardson.

¹ Read at a meeting of the Dorchester Medical Club, May 1, 1890.

¹⁷ Ayers, Heinz, Hensperg, Hinsberg, Rumpf.

good deal of trouble, and had kept her quite frequently in the physician's care.

She was twenty-three years of age. She had been in the care of one of our Norfolk County physicians in her earlier days, and he, it seems, not being quite satisfied with the results of treatment on general principles, had advised her to consult some specialist.

Her troubles at this time were, according to her statement, a general prostration, which did not improve under tonic treatment, severe pains in the back, which, some two and a half or three years previous to the time of our interview, became transferred to the right hypogastric region where they had since remained, and had recurred at irregular intervals of from one to two weeks, from that time on, increasing in severity, until the anguish occasioned by them had become intolerable and had compelled her to seek relief.

The catamenial flow came on when she was fourteen years of age, but had never been in any degree regular, varying in times of its occurrence from six weeks to eight months. I do not find anything in my notes that enables me to say positively whether the intense suffering was relieved temporarily after the flow appeared, and I very much regret the omission.

As a result of the advice of her former physician, she consulted a noted female physician of the city, who gave her "local treatment" as she said, which meant that she applied tincture of iodine to the mouth of the uterus, though she told her from the first that she did not find anything in particular to be wrong with her in that region. But these frequently recurring attacks of pain were not relieved, and she afterward consulted another prominent practitioner of the city, who, after examination, referred all her troubles to disease of the ovaries, and advised their extirpation. For this measure she was not prepared, unless farther advised and different or, at least, corroborative counsel decided it to be imperative, and she consulted another leading physician of his time, who has since died. He advised strongly against the removal of the ovaries as matters then stood, and not making a positive diagnosis of his own, referred her to an eminent specialist of the city, to whose office she had made some six or eight visits previous to calling at mine.

He had made as thorough examinations as the case would admit at these interviews, and his investigations had been as exhaustive as he could make them, and he wrote to the physician, by whose advice she had consulted him, stating that he found the lower portion of the right kidney tender and manifestly diseased; and accounted for the pain, that had come to be terrific in its violence whenever it recurred, by regarding it as a renal colic, for which, he said, the removal of the ovaries could be expected to do no good.

She was married on the eleventh day of November, 1886, two days after the cessation of a menstrual period. The interval between that period and the last preceding period had been nearly four months, and its latest predecessor had been in the preceding February. It was, therefore, manifestly impossible for her to fix her wedding-day with any reference to that time, and it happened, as stated, just before her marriage, and terminated only two days before that event. Possibly the exhilarating excitement of preparation for that occasion may have been one of the predisposing causes that brought it on at that time. But it came, at all events, then, though she was not in the least troubled

by the fear of what might happen, and did not look upon it as in any way an unfortunate circumstance that it should happen just as it did.

Her next appearance occurred in October, 1887. Meanwhile she had supposed herself to be pregnant, but she did not expect to be eleven months about it, and she had not gone along otherwise just as she thought she ought to, if such were the case, and she consulted another physician, whose name, for some reason, she declined to disclose, who told her she was about three months along. When this period came on, in October, 1887, she flowed excessively, and suffered much. In fact, her periods, whenever she did have them, were excessively painful and very profuse, being bright red blood at commencement, becoming more profuse as days went on and finally ending with clots of considerable size and quantity, and in this particular instance, disappointing all her hopes and materially jeopardizing her prospects, whatever they might be, of ultimately rearing a family, and she was much inclined to yield to discouragement.

After this period in 1887 had terminated, she again hoped that she might be likely to become a mother; but, of course, she could not have become pregnant then, she thought, because the indications must have been unmistakable by the present time (May 2d) if she had done so.

In February, 1888, the breasts became hardened and tender, and had remained so, growing constantly larger. The nipples, at this time of her visit (May 2d), had also become more prominent than they had ever been, the areola had become puffy in appearance and darker in color, and the follicles were very considerably enlarged. There was no examination, except of the breasts, at this interview, though the abdomen was felt through the clothing to be tense, firm and apparently much larger than in its ordinary condition.

Such, now, is a description of my patient, and her present condition stated with as much accuracy as it is possible for me to give it.

Here she sits in my office, on this May afternoon, and tells of all the suffering that she has experienced, tells also of all these various, yes, celebrated ones whom she has consulted within the last three years, of whom the first is committed to no statement of opinion, so far as is known, concerning the nature of her troubles; the second, with large experience and extensive practice, had failed to find any indication of disease of any kind; a third, eminent in his profession, had diagnosed disease of the ovaries, and advised their removal; a fourth, had declined to make a diagnosis; a fifth, still more eminent in his specialty, had found the right kidney diseased; and yet a sixth had pronounced for pregnancy at three months; she tells also of the yet unabated and frequently recurring paroxysms of intolerable suffering, tells of the unexplained and extreme irregularity of the menses, and of her marriage. By personal observation also, she is found in the general unsatisfactory condition that has been described, with prominent abdomen, large and dark colored nipples, puffy areola, with follicles enlarged, and with the history, as given, extending over all this period of years.

It would have been a great comfort to me at this stage of our interview, if I could have excused myself for a moment from the presence of my patient, and, finding our club in convenient session within accessible distance, have hurriedly laid my case before it

and asked what answer I should make to the woman when she asked me the question which she did ask me, "What is the matter with me?"

But there was nothing of the kind to come to my assistance, and I was obliged to rely on such resources as I had. And I saw nothing better to be done than to tell her that I could not expect to form an opinion concerning the cause of the suffering that she endured at a single interview when so varied opinions had been given by so many competent practitioners in the matter, and that as to the question of pregnancy, if a woman were herself in doubt in the early stages as to her condition, I could not, and did not have much confidence in the opinion of any who thought they could tell with any degree of certainty whether she were pregnant or not.

But in view of the increasing size of the abdomen and the behavior of the breasts, I felt warranted in expressing the opinion that the probabilities pointed in the direction of her being in a family way. And here the interview ended.

The next morning, May 3d, with very little regard evidently for the sanctity of the doctor's opinion, she sent me a note, stating that she had "come round" as she expressed it, emphasizing the words with a line drawn under them, and would like to have me visit her that day, which I did. She had been in doubt how to proceed. Whether it was best to try to promote a more copious flow; or to try to stop it altogether, she did not know.

She had feared that being in a family way, it might be a threatened miscarriage, and that the means that should promote it, might induce just what she was anxious to avoid. Yet if it was only an erratic or comet-like return of what should be depended upon to come with regularity until there was good cause why it should stop, then there seemed to be no reason why it should not be encouraged in every way. I told her to promote it by every means, and gave such direction as seemed to be calculated to bring about that result. She went through that period regularly enough, and it turned out to be a regular period and nothing more, and the case stood precisely as it had stood for years.

It is interesting in the progress of this case, to note the recurrence of the catamenial flow, and I am able to give the times of its appearance with accuracy for the preceding four years. It came in March or April and in October, in 1884; that was when she was nineteen years of age, and five years after commencing. It came in January and September, November and December, 1885; in February, July and November 6, 1886, and she was married on the eleventh. The next and last appearance, previous to her visit at my office was October 11, 1887, just eleven months precisely, from the day of her marriage. Ten times then it had appeared, when it should have come fifty. What could explain it? what could be the cause? I decided upon two things. First, that none of the old trials that had been worked thus far were ever going to lead up to an explanation of this condition in a young woman apparently otherwise in good health, and possessed of all the attributes that belong to a woman of her years. Second, that if mechanical obstruction to the flow of the menses were present, it might furnish a more consistent explanation of all her experiences for all these years, than any theory that had yet been applied. One thing seemed pretty clear. The desire of her heart like all who begin to

fear that the privilege of rearing a family is to be denied them, was set upon having children. It did not seem probable now as things looked, that it was likely to be gratified. She had been married now nearly two years, was married at a time when she thought immediate pregnancy was to be expected, had raised her hopes to the highest pitch of expectancy when the enlarging abdomen seemed to give evidence that her desires were likely to be fulfilled, and then after eleven months of uncertainty and anxious expectation they had been dashed out unceremoniously by the unwelcome return of October, 1887, to be again raised by the changes that had taken place in the breasts and nipples and areola, and the still increasing size of the abdomen, only to be stranded in hopeless despondency and disappointment by this last appearance on the 3d of May.

I determined to act upon the supposition that the menses were retained. It seemed reasonable to suppose that if the secretion took place regularly within the uterus and for any reason was not discharged, that the time would be likely to come when its presence would cause pains that might be in the nature of uterine contractions, and that would increase in severity until they might answer the description given in this case, and that they might continue until they had so far overcome the obstruction to their free exit, whatever it might be, as to force out a portion of the confined mass sufficient to afford relief, until the accumulation had again become so great as to excite a recurrence of the pain, to be again relieved, only by the same means. And here it is that my notes would be so much more valuable, if I could say positively that the suffering was relieved for the time after the flow came on. But I have not the knowledge in my possession that justifies me in making that statement, though I believe it to be true.

If this theory were correct I thought also it might explain why pregnancy did not occur. I determined to find an entrance into the uterus and to force one if necessary, though of course there was an opening, otherwise the menses could not by any possibility have been discharged, and Byford says that in many cases where the os externum was not larger than a small pin-hole patients have menstruated regularly without any pain whatever. Whether pregnancy is obstructed by such condition, he does not state.

How should the operation be performed? It did not seem to me that the sound was the best instrument for it as it would leave an opening smaller than it was desirable there should be, and I feared to use either the knife, the scissors or dilators, fearing that I might set up an inflammatory action in the uterus of a woman of her nervous sanguine temperament, of which the end could not be foreseen. I finally decided to make use of a large silver probe with a very large bulbous extremity designed, I think, for probing gunshot wounds of considerable depth, which would make a larger opening than the sound, without incurring the dangers of the tent, the scissors or the knife.

I waited until the time came for the return of the period in June, and it did not appear, and it seemed useless to delay longer. The probe was forced through the external os, meeting with a good deal of resistance, but it was pushed onward as far as I dared to force it, meeting an increasing degree of resistance all the way. Finally I desisted, more because I did not dare to exercise the force necessary to carry it

farther, than because the purpose of the operation had been accomplished, for of this I did not feel at all sure.

But I told her we would wait another month and see what happened. If necessary the operation could be repeated, perhaps more effectually. If it should not be necessary, we would all feel relieved.

One point, at least was gained. I felt sure that whatever else might happen, we had no pregnancy to complicate the case. And I represented to her the advantage of abstaining absolutely from all the possibilities, whereby pregnancy could occur, until her status could be still more definitely determined; telling her that for our present purpose, the next best thing to knowing that she was in a family way was to know that she was not.

There is every reason for believing that my injunction was implicitly obeyed. She had begun to take courage in the prospect of a new departure, and was ready to aid my measures in whatever depended upon herself.

But when the month came around, and I came to make my promised visit, I found the shutters up and the house closed. The family had disappeared. I supposed she had become disgusted either with the doctor or with his treatment, and had gone elsewhere to add another to the list of unsuccessful ones, into whose hands the fates had directed her steps and I expected to see her no more. But one day, late in October, she reappeared to me and explained her absence and told of all that had happened since she had been away. It had seemed best, in order to carry out my wishes, that she and her husband should dwell apart for a time, and so, previous to my call in the early summer she had taken up her residence at the seashore, and the husband had provided himself with quarters elsewhere. Her June period she missed, but in July she came on regularly and on time and got through it more satisfactorily than for years. In August, to her great delight, she came on again regularly, and on the twenty-fifth of that month marital relations were resumed.

Our case loses its interest from this time. No renal colic has since been reported; the kidneys, both right and left, appear to be performing their function satisfactorily, and unless the ovaries shall yet develop some still more urgent symptoms, their expiration will probably be indefinitely postponed, and the full measure of parental happiness reaches its climax in the circumstance that on the 12th day of June last, two hundred and ninety-two days after the family had been re-established, there came into the household a fine healthy boy that is the pride and the delight of all who take interest therein.

Reports of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.¹

DR. CHARLES H. KNIGHT of New York, reported a CASE OF FIBRO-SARCOMA OF THE RIGHT NASAL FOSSA, WITH UNUSUAL CLINICAL HISTORY,

accompanied by a specimen.

The growth in this case had its origin in the nasal cavity. Baker, forty-two years. Family and private health good. Twelve years previously he received a

¹ Report of the Twelfth Annual Congress, at Baltimore, Md. Concluded from page 14 of the Journal.

blow upon the bridge of the nose, to which he attributed his malady. For two years had had nasal obstruction, gradually increasing; frequent sneezing; constant frontal headache. Disposition became irritable, and used liquor to excess contrary to previous habit. No hemorrhage, until two months ago, when he expelled from the right anterior naris masses of bloody tissue, and about the same time expelled a fleshy mass as large as a robin's egg from the posterior nares. The right eye became closed by edematous swelling of lids and infra-orbital region. The right nasal chamber was found completely filled with a soft vascular and very sensitive mass resembling an old myoma. Part of the growth was snared off, and profuse hemorrhage resulted. The growth was rapidly reproduced in the next few days.

The patient then went to the hospital, where Dr. Weir performed Chassaignac's operation. Part of the growth was everted off, when it was found that it involved the ethmoidal and sphenoidal cells, and the operation was carried no further. The patient made a good recovery from the operation; but the growth redeveloped in six weeks, and involved the face. Three months after the operation, the patient in a delirious condition, tore out a portion of the tumor by putting his fingers into his mouth and dragging out an irregular mass, which was from the naso-pharynx. The rush of blood was very great, but ceased spontaneously before the arrival of the physician. The patient was exhausted, and died five hours later. No autopsy.

The paper was largely devoted to a consideration of the literature of the subject, and the methods of operation. The lecturer favored a radical operation such as Maissonneuve's, when the growth shows any tendency to malignancy. The theory of traumatism was declared insufficient to cause the morbid action. It alone is not capable of creating malignancy. Microscopic examination of the specimen showed the characters of fibro-myoma.

DR. BOSWORTH deprecated severe measures. The only case of recovery from sarcoma that he knew of was one in which severe measures could not be borne. It was reported at the meeting of the American Medical Association several years ago. Butlin says that it is at first a purely local disease. The old operations are unnecessary. At the present day all parts of the nose are accessible without such severe operations, and the growth can be snared off. In carcinoma no treatment is of service.

DR. MULHALL reported a case of small-celled sarcoma, filling both nostrils. The case also had some interest in connection with the question of the origin of the disease from injury. The man was injured on the railroad about a year before the disease appeared. When first seen, a mass of soft material projected from both nostrils; it bled easily. The galvano-cautery was used to clear one nostril after several sittings; but he became tired of treatment, took to the use of morphine, and died in four months. The disease lasted about a year.

DR. BOSWORTH: The case is reported as one of fibro-sarcoma. It would be interesting to know whether it changed in appearance at the time it took on malignant growth.

DR. KNIGHT said, with regard to radical measures, he would not advocate any except the operation of Maissonneuve.

ADENOID TISSUE IN THE NASO-PHARYNX AND THE PHARYNX. A PRELIMINARY REPORT ON THE DEVELOPMENT AND EARLY HISTORY.

was the title of a communication read by DR. H. L. SWAIN, of New Haven, Conn.

The paper considered the adenoid tissue in this locality as a whole; that is, the ring of tissue formed by the pharynx tonsil above; next the tissue in the region of the tubes on either side, then the lateral column of the pharynx, the faecal tonsils, and, last of all, the lingual tonsil. This ring of tissue is right at the junction of the tissues formed by the exoderm and the endoderm of the embryo, and is itself formed by the participation of the endoderm as motive principle and the mesoderm as origin of the cell infiltration.

In studying the development, it was found that the pharynx tonsil was the earliest to begin, as it is the oldest gland in the comparative history, being found in the lowest form of animals. Next in age were found the faecal tonsils; while the youngest member of the group, or at least the latest to form, was the lingual tonsil. Thus there is a physiological basis to observed phenomena of early atrophy of pharynx and late endurance of the lingual tonsil. The beginning of all these different portions of the ring of adenoid tissue in the embryo was alike, not varying as does the tissue. The bursa pharygea of Luschka seems to have a somewhat inconstant embryonic existence and must not be confounded with the recessus pharyngeus medius, which is a more frequent occurrence in the well-developed organ.

The constant appearance of follicles in all parts of this tissue is a normal phenomenon, but is, unquestionably, as observed in the lingual tonsil, influenced by pathological changes. That is, disease favors an earlier appearance of the follicles and makes an increase in their size and number. The conglobate glands in the pharynx tonsil possess no hollow spot.

In considering the function of the adenoid tissue, many views were spoken of, but credence given to a two-fold purpose which this tissue fulfills, namely, an organ for the formation of leucocytes, which amoeboid cells, by virtue of their immigration to the surface, come into a position to meet micro-organisms and protect the system from their influence by destroying them. Secondly, there seems to be a direct relation between the number of leucocytes present in this adenoid tissue and the demand of the rest of the system for those cells; for, in cases of long-continued purulent process, there is a great diminution in their number. From the first we may deduce reasons for the larger development of adenoid tissue in man and in certain animals; from the second, an explanation of the atrophy of this tissue in many observed cases.

DR. BOSWORTH complimented the author upon his paper, as the function and pathology of the lymphatic structures of the nose and throat are now occupying considerable attention. The suggestion by Scanes Spicer, that the tonsils are placed in the throat to absorb excess of fluid, does not amount to the dignity of a physiological theory. Killian's view was that this adenoid tissue is placed here to destroy micro-organisms, but they might just as well be looked upon as traps for micro-organisms where they develop. A very interesting question in catarrh is, Where does all the fluid come from?

Remarks were also made by DR. LANGMAID and the author of the paper.

DR. E. FLETCHER INGALS, of Chicago, read a

SUPPLEMENTAL REPORT ON CARTILAGINOUS TUMORS OF THE LARYNX AND WARTY GROWTHS IN THE NOSE.

The first case had been reported to this Association two years ago, when still under treatment by applications of chromic acid full strength for cartilaginous growths just beneath the vocal cords. Although a practical cure seemed to have been obtained, the patient afterwards returned with slight thickening of the base of the growth, which required several subsequent applications. During the past year, there has been no recurrence. At present the mucous membrane appears healthy; no cicatrix. The acid seems to have caused absorption rather than destruction. At the last meeting, a case of similar growth in the nose was reported, which resisted chromic acid, nitric acid, galvo-cautery and other means. Subsequent applications of tincture of thuja occidentalis upon a pledget of cotton (twice daily) with internal administration of drachm doses three times each day, was followed by improvement. Occasional applications of chromic acid were also made about once a week. This was followed by complete disappearance of the warty growths.

DR. BOSWORTH referred to a case seen some months ago in a child three months of age. It was a broad, papillary growth on the tongue and palate. He applied thuja, but without result. The growth was afterwards completely destroyed with acetic acid. They are like warts on the skin anywhere.

DR. MCLHALL considered that some confusion existed between soft growths and papillomata. A paper published some time since stated that the writer had seen several hundred cases of warty growth. The diagnosis can only be made with the microscope. He had individually seen only a single case of papilloma of the nose. It sprang from the anterior end of the middle turbinated bone, and looked exactly like a bunch of grapes.

DR. JARVIS advocated the use of chromic acid in removing papillomatous tissue, as the best caustic. He agreed with the last speaker that papilloma of the nose is rare; he had seen only two cases.

DR. MACCORY had treated three cases of warty growths from the vestibule with the galvo-cautery.

DR. MULHALL said that he would have a microscopic examination made, and add it to the report of the case.

DR. S. O. VANDER POEL, of New York, reported a

CASE OF MYXOMA OF THE EPIGLOTTIS,

and presented drawings of laryngoscopic appearances.

The patient, a German, fifty-four years of age, a blacksmith, was well until seven months previous to coming under observation. He then had difficulty in deglutition and the sensation of a foreign body in the throat. No actual pain. Talking required effort, only occasional hoarseness, with feeble whispering voice. Suffocative attacks at night, waking suddenly from his sleep, owing to some mechanical obstruction. He lost flesh rapidly, owing, he thought, to the small amount of nourishment he had been able to take. Cough had been troublesome, and especial difficulty was experienced in removing mucus from the throat. Mitral

cardiac murmur, bronchitis and emphysema were present. There was slight hypertrophic rhinitis, with eochondroma of septum. With the laryngeal mirror, a growth of yellowish-red color, translucent, about as large as a horse-chestnut, was seen springing from the lingual side of the epiglottis; surface glistening, lobulated and traversed by numerous small vessels. It was attached to gloss-epiglottic fissure of left side. It was so large as to prevent examination of larynx, only a small portion of vocal cords could be seen. The growth was removed with the galvanic écraseur. The patient did not show much improvement after operation, but progressively failed, and died some four months later with all the appearances of leucocytæmia. No malignant disease was discovered post mortem. The growth was a myxoma, and was attributed to the general disease, such growths being characteristic of leucocytæmia.

A review of the literature of the subject was appended.

The PRESIDENT remarked that, whereas the growth in the location described by the lecturer is rare, the same growths lower down in the pharynx are not very rare. He had seen a large number at Hyrtl's Clinic in München.

DR. LANGMAID said that it was a new thought to him that these growths might be myxoma.

DR. SWAIN had removed from the fossa glosso-epiglottideus a growth just at the junction of the epiglottis and tongue, which proved to be a simple polypus; strictly a mucus polyp resembling those from the nose in every particular, except that it was more consistent. It did not contain lymphoid tissue.

DR. VANDER POEL said that his remarks applied to a pure gelatinous growth characterized by stellate cells, with delicate processes interlacing, imbedded in a gelatinous ground substance. He regarded Dr. Swain's case as analogous.

The PRESIDENT remarked that such growths are most frequently fibro-sarcomatous in character.

HOARSENESS AND LOSS OF VOICE CAUSED BY WRONG VOCAL METHOD,

was the title of a paper by DR. S. W. LANGMAID, of Boston.

The evils of unnatural and unphysiological methods of voice-training pursued by some singing-masters was the chief topic considered, and especially, the forcible holding of the tongue down, during the formation of different tones. The idea that this gives increased room in the larynx and air-chambers is erroneous, on the contrary it interferes with the proper physiological action of the muscles which control the movements of the larynx and calls upon them to do two different duties at one time. One singer can get the best effects with the tongue flat, another will get her best results with the tongue partly raised. There is a great difference in the size and shape in different tongues; the aim is to obtain the tone in the most natural manner in the individual. Cases were cited to show the effects of overstrain, temporary paresis, hemorrhage, etc. Treatment is rest and adoption of a natural method.

This paper was discussed by DRs. DELAVAN, HINKEL, MULHALL, MACKENZIE and LANGMAID; and the conclusions as to the effects of wrong method and strain of voice concurred in generally and the treatment by rest and proper vocal gymnastics approved.

The afternoon session on the second day was opened by a paper on

THE CONDITION KNOWN AS CHORDITIS TUBEROSA, read by DR. CLARENCE E. RICE, of New York.

The following conclusions were formulated:

(1) That the condition known as chorditis tuberosa is *not* one of the pathological changes to be classed among those of chronic catarrhal laryngitis, but it is itself the primary lesion.

(2) The presence of this nodule is the direct cause of the catarrhal changes in the larynx, which are developed later.

(3) This condition is almost always found in singers and public speakers, and is caused by a faulty method of using the voice; a callus occasioned by attrition of one band against the other.

(4) Chorditis tuberosa occurs more frequently in women than men and is more often seen on the left than the right band.

(5) A nodular enlargement will, in time, produce a similar change in the second band at the point of contact.

(6) These nodules should be removed as early as possible. Singing should not be allowed until the bands are normal; and faulty methods of using the voice should be proscribed.

DRS. WESTBROOK, DALY, DELAVAN, MACKENZIE and RICE discussed this communication. The opinions expressed were rather unfavorable to the results of treatment; the supposition being that cases of ordinary chronic laryngitis are likely to be mistaken for "chorditis tuberosa," which is rare.

DR. FLETCHER INGALS, of Chicago, read a paper on UNILATERAL PARALYSIS OF THE LATERAL CRICOARYTENOID MUSCLE.

This is a comparatively rare condition, although bilateral paralysis of the adductors of the vocal cords is a common affection. Two cases are communicated in this paper, both following closely surgical operations in the mouth and naso-pharynx, and apparently hysterical, although possibly reflex. The usual symptoms of adductor paralysis were present. There were no other evidences of disease or of hysteria. The first, a school teacher, twenty-two years of age, recovered after a few weeks of mainly constitutional treatment. The second, a girl nineteen years of age, has been under treatment for about four weeks, without perceptible improvement.

DR. BOSWORTH noted one peculiarity of laryngeal paralysis. In several cases he had seen paralysis of one side of the larynx, with complete loss of voice, and in two instances, with production of falsetto voice. At the end of three or four weeks, the voice became almost absolutely normal, while the paralysis persisted; the unaffected band having swung over to meet the paralyzed one, and so restored the voice.

DR. FRANK BOSWORTH, of New York, reported

A CASE OF UNILATERAL PARALYSIS OF THE ABDUCTORS OF THE LARYNX; THE RESULT OF AN ATTACK OF BULBAR DISEASE; WITH UNUSUAL SYMPTOMS.

A gentleman, who had chronic suppurative inflammation of left antrum following ulceration around a tooth which had been extracted nine months before coming under observation, gave the following history:

He had an attack during the night of dizziness and nausea followed by right hemiplegia, with lateral loss of taste, and difficulty in deglutition. This attack passed away, and four months later, when seen, considered himself completely recovered from the attack. No paralysis of extremities. Right vocal cord was motionless, however. This was due to some permanent change in the centre in the medulla governing the motions of the abductor muscle of the right side. A second case was referred to, which had been pronounced one of paralysis of left abductor, due to aneurism. Upon examination, a partial ankylosis of the crico-arytenoid was discovered, which fully accounted for the symptoms present. Here was a case pronounced one of paralysis by a very competent observer, and yet one which should not be regarded as either extrinsic, myopathic or any other form of paralysis.

An inquiry from DR. WESTBROOK if the suddenness of onset, and the extent of motor paralysis, and short duration would not exclude the medulla as the site of the lesion, and favor the view of embolism involving the capsule, brought the reply that there was no doubt in the reader's mind that the case was one of bulbar paralysis, which might have been due to a clot or some lesion involving the base of the brain or the cerebellum.

The third day's session, held in the Library of the Johns Hopkins Hospital, began, at 11 A.M., with a paper by DR. D. BRYSON DELAVAN, of New York,
ON THE EARLY DIAGNOSIS OF MALIGNANT DISEASE
OF THE LARYNX.

The lecturer dwelt upon the great importance of an early diagnosis of carcinoma, and the necessity of prompt recognition of the disease. The diagnosis in many cases is rendered difficult by complications. Thus, pulmonary phthisis may be in active progress, and lead to the diagnosis of tubercular laryngitis. The appearances of syphilitic of the larynx are often like those of cancer, and the temporary improvement, often seen under the influence of iodide of potassium, still further misleads the observer. On the other hand, syphilis of the larynx is often pronounced cancer, and serious operations advised. From a careful review, he believed that three points in diagnosis may be useful early in the case:

(1) Thickening of the mucous membrane, with marked loss of motion in the neighborhood of such thickening, implies an infiltration of the muscles which, generally speaking, is due to malignant disease. An apparent paralysis of one side of the larynx, associated with thickening upon the same side, should always call for the exercise of extreme caution in the matter of prognosis.

(2) As the result of numerous investigations made by many observers during the past two years, it is generally admitted that, of new growths of the larynx apparently papillomatous, those, the bases of which are not surrounded by a zone of inflammation, are probably benign; while those which are encircled by a ring of reddened, infiltrated membrane are almost certain to be malignant. The truth of this proposition has been verified in several instances by the writer.

Trans-illumination of the larynx, first suggested by Voltolini, has been studied during the past year by several observers. While by the use of the electric light, applied to the exterior of the larynx, the writer has

found it possible to gain tolerably satisfactory results in causing the light to penetrate the walls of the larynx, it would hardly be possible by this method to recognize the presence of an abnormal thickening, which was not already sufficiently well-developed, to be visible to the eye by the ordinary intra-laryngeal demonstration. As a means of recognizing the presence of a new growth of recent origin and of small extent, this method is, at present, of doubtful value. For the purpose, however, of demonstrating the relative density of an enlargement of appreciable size, trans-illumination of the larynx is a method of considerable importance, and, even in cases of the class first mentioned, it may occasionally be found useful.

DRS. MACKENZIE, DALY, INGALS, BOSWORTH, HOLDEN, ASCH, MULHALL, SWAIN, LANGMAID, SEILER and DELAVAN participated in a lengthy discussion, in which there was little disposition to accept any diagnostic character of early carcinoma. Dr. Langmaid mentioned a zone of infiltration and redness of the tissue around the growth as an early indication of its malignant nature. The treatment was thoroughly discussed.

A paper by DR. GEO. W. MAJOR entitled

NOTES ON AN INTERESTING CASE OF ANEURISM,
read by title, and referred for publication.

DR. JOHN O. ROE, of Rochester, N. Y., reported and showed photographs of the post-mortem appearances of

A CASE OF STRICTURE OF THE ESOPHAGUS FROM
INTERSTITIAL THICKENING OF ITS WALLS,
which he considered a fibroid hypertrophy.

The case was a woman, fifty-eight years of age, free from syphilitic history. The patient died from exhaustion. On post-mortem examination, ankylosis of the arytenoid articulations was found, which had been diagnosed during life; also a marked rigidity of the wall of the larynx due to general thickening of the tissues throughout the larynx. No indication of tubercle. Several constrictions were found in the esophagus, only admitting a lead pencil by using force. Microscopic examination of the thickened walls showed a connective tissue infiltration, the muscular fibrilla being degenerated and replaced by this connective tissue formation. It was, therefore, a pseudo-hypertrophy of the muscular wall, but a real hypertrophy of the connective tissue. The new formation was attributed to chronic inflammation analogous to that in the lungs in fibroid phthisis.

DR. LANGMAID inquired if the lecturer had tried the introduction of a permanent tube in the esophagus?

DR. ROE: It was tried, but the patient could not endure it.

DR. MULHALL: Was ankylosis of crico-arytenoid articulation first detected post-mortem?

DR. ROE: No, it was discovered by the laryngoscope during life. The patient spoke in a monotone without modulation of voice, same as in paralysis of the posterior crico-arytenoid muscle.

DR. MULHALL: Was there not paralysis?

DR. ROE: Yes, from pressure.

DR. BOSWORTH: There could not be a better illustration of the fact that all cases of immobility of portions of the larynx are not always due to paralysis; here there was ankylosis. The pressure upon the recurrent laryngeal nerve had nothing to do with the paralysis.

DR. ROE stated that he had said that the ankylosis might have antedated the paralysis, but did not say that it had.

DR. MULHALL said that he had made two post-mortem examinations of malignant disease involving the recurrent laryngeal nerve, and in both cases the larynx was in the cadaveric position. In neither case was there the least ankylosis of the crico-arytenoid joint, although it had been immobilized for months. This is why he asked the question. Does Dr. Roe think that the ankylosis of this joint was the cause of the appearance in the larynx?

DR. ROE: No. There was sufficient infiltration of tissues in the larynx to account for it.

DR. MULHALL inquired if he thought that an abductor paralysis of eight or nine months, with very little motion, if any, in this joint, would produce ankylosis?

DR. BOSWORTH: A case was reported by Lefferts, in which, paralysis was due to a gumma; months afterward the gumma was absorbed, and the mobility of the joint was restored. Why should there be loss of motion?

DR. ROE: There was every evidence in this case, that there was complete paralysis of the larynx, so that this pressure upon the laryngeal nerve, and this infiltration of tissue occurred before ankylosis took place. The paralysis of the posterior crico-arytenoid might have taken place first before complete paralysis. In another case with paralysis of both posterior crico-arytenoids; and on post-mortem examination, the original cause was found to be a clot in the brain.

DR. BOSWORTH: It is an interesting communication, and recalls the famous case of Mackenzie's.

DR. MULHALL: Was the patient iodized?

DR. ROE: Yes. She had been treated by iodide of potassium; but when she came under observation, she was dying from exhaustion, and only lived a few days.

A paper by DR. F. DONALDSON entitled

THE LARYNGOLOGY OF TROUSSEAU AND HORACE GREEN,

by request of the author, was read by title.

In executive session, the following officers were elected for the ensuing year: W. C. Glasgow, M.D., of St. Louis, President; J. O. Roe, M.D., of Rochester, Vice-President; J. H. Hartman, M.D., of Baltimore, Second Vice-President; Charles H. Knight, M.D., of New York, Secretary and Treasurer; Thomas R. French, M.D., of Brooklyn, N. Y., Librarian; Harrison Allen, M.D., of Philadelphia, Member of Council.

The next place of meeting, Washington, D. C., with the triennial Congress of American Physicians, 1891.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.¹

SECOND DAY.—JUNE 4TH, 1890.
AFTERNOON SESSION.

NOTES ON THE OPERATION, AFTER-TREATMENT, AND RESULTS OF LITHOLAPAXY,

by DR. G. CHISMORE, San Francisco, Cal.

A MEMORANDUM IN A RARE COMPLICATION IN LITHOLAPAXY,

by DR. J. WILLIAM WHITE, Philadelphia, Pa.

¹ Report of the Fourth Annual Meeting, at Altoona, Pa. Concluded from page 17 of the Journal.

Patient aged forty, weight 270 pounds, frequent urination, sometimes occasional sudden stoppage of stream in the act. Examination showed small stone in the bladder, moderately enlarged prostate, contracted meatus, hyperesthetic urethra, granular and hyaline casts in urine. Patient etherized; bladder washed out, four or five ounces of boric-acid solution left in. Lithotrite easily introduced; the stone which was not over one-half inch in diameter caught, broken, and two of the fragments seized and further broken. On withdrawing the lithotrite, a gush of fluid followed the instrument. Attempting to insert a small, evacuating-tube, it was arrested at the prostate and would pass no further. All the instruments tried likewise failed. Forced injections of oil, urethral forceps, etc., were tried perseveringly. A large, blunt instrument was used in the effort of forcing this supposed fragment back into the bladder, but without avail. Finally, a small Nelaton catheter passed into the bladder. For a few days considerable difficulty in urination; smallness, deviation of stream, and much tenesmus. On the fourth day, while straining, he ejected a uric-acid stone, after which urination was much easier and symptoms disappeared. Lithotrite again introduced, and a small fragment crushed. Patient in a few days returned home.

DR. W. K. ORIS thought it a mistake to operate with cocaine. Bladders which had held a stone some time were exceedingly tender, and the continual straining of the patient in the effort to expel the contents of the bladder made it difficult to operate. While cocaine dulled the sensation in the urethra, it did not dull the sensation in the bladder very much because the bladder was not very absorptive. In regard to Dr. White's case, he had seen that accident happen several times, but had finally succeeded in passing a smaller lithotrite.

DR. BANGS had only once had an impacted fragment like the one described by Dr. White. He called attention to one of the causes of failure of litholapaxy; namely, when the stone was encysted.

DR. CABOT said the accident mentioned by Dr. White had not occurred in his experience, but he had seen it occur, in one case with fatal result. Dr. Chismore spoke of the difficulty of getting the last fragment or getting the stone at all in some cases where there was a pocket behind the prostate. In the extreme case described that might be possible. He had found where the pocket was of less importance than in that case, the position of the patient to help very materially in getting the stone. By raising the hips so as to roll the stone back from the prostate to the fundus of the bladder, one could often easily reach a stone which before was inaccessible. He had several times used Dr. Chismore's suction lithotrite, and had found it of value in searching for a fragment he had failed to seize with the lithotrite.

DR. BRYSON was surprised that no mention had been made of the use of the cystoscope in a case where there was doubt as to whether a fragment still remained. He thought by the use of it a good deal could be told about the pockets in the bladder, unless there was considerable bleeding. Dr. Bryson mentioned an experience similar to the one Dr. White had had. He had oftentimes been embarrassed in the removal of fragments with any apparatus owing to the thickness and toughness of the mucus in which these fragments of secondary calculi were often imbedded.

A mixture of bicarbonate of sodium would dissolve the mucus better than anything else he knew of.

A CASE OF CYST OF THE KIDNEY APPARENTLY CURED BY A SINGLE ASPIRATION,

by DR. A. T. CABOT, Boston.

DR. J. W. WHITE was not aware that authorities were so positively in favor of nephrectomy under such circumstances. It never would have occurred to him in a simple case of hydronephrosis or simple cyst of the kidney to do nephrectomy without first trying the effects of nephromy. Statistics showed that nephrectomies after nephrotomies were less fatal than primary nephrectomies.

DR. BRYSON agreed with Dr. White that it would not occur to him to do a nephrectomy first under such circumstances. He thought that in every case there was ample time for drainage. He did not think the danger to the general health was sufficiently severe to warrant measures being taken with any degree of speed.

PERIPHERAL NEURITIS OF SYPHILITIC ORIGIN,

by DR. J. A. FORDYCE, New York

The writer spoke of the infrequency with which inflammation of the peripheral nerves was encountered in syphilis, and reported two cases which had come under his observation. In one patient four months after infection, a paralysis of the facial nerve occurred, involving both the eye and the mouth muscles, and slightly impairing the sense of taste on the paralysed side. The paralysis disappeared at the end of two weeks under antisiphilitic treatment.

In the second case reported, a multiple neuritis of the lower extremities appeared with the outbreak of the early secondary eruption. The affection was characterized by paresis of the lower extremities, inability of the patient to walk or stand erect, loss of the patellar tendon reflexes, muscular tenderness, and numbness of the feet and lower one-third of the legs. Electrical examination showed loss of excitability of the nerves, and partial reaction of degeneration in the muscles, together with muscular atrophy. The functions of the bladder and rectum were unimpaired. The patient recovered the use of his lower extremities under the use of mercurial inunctions and iodide of potassium.

A CONTRIBUTION TO THE STUDY OF MULTIPLE NEURITIS OF SYPHILITIC ORIGIN,

by R. W. TAYLOR, New York.

DR. POST said that Dr. Taylor's last remark in regard to the evanescence of the analgesia brought to his mind a case of his in which a gentleman who has had syphilis of some ten years' duration has on one thigh an analgesic spot which has existed since a very early time in his syphilis, and has not changed from the first. There certainly could be no hysteria in that case.

DR. R. W. TAYLOR said there was one point he had not elaborated as yet; namely, that frictions of mercurial ointment caused subsidence of the swellings and disappearance of the pain. He thought the affection might be summed up in this way: that it was a process analogous to that which goes on in the fibrous tissues of the joints, which was inflammatory and hyperplastic and produced those arthralgias, that is, a simple, inflammatory process taking place in the connective tissues of the nerve, irritating that and caus-

ing pain, or being of a less hyperplastic, less inflammatory character, and going on to the degeneration of the nerve.

DIPHTHERIA OF THE MEATUS URINARIUS.

by DR. F. TILDEN BROWN, New York.

Young man, nineteen; healthy. Dirty household cotton used by the patient to cover the glans. Infection rapidly developed within thirty-six hours. When next seen, presented a raised-up, wax-like formation over the meatus, which microscopically showed cocci, diplococci, streptococci, besides three varieties of bacilli. For the next three days, newly formed caps were removed with increasing difficulty. Finally, necrotic action resulted in the loss of the tip of the glans and contraction of the meatus. Constitutional symptoms slight, but pretty clearly brought out by the advent, short continuance, total disappearance of albuminuria, with certain renal elements shown microscopically. Recovery complete, without extension of diphtheritic process along the urinary tract.

DR. TAYLOR had seen many such cases following circumcision, particularly in those who lived in squalor and poverty. The glans penis was attacked with redness of an exudative character, and was promptly covered over with this dirty-colored membrane, which in its first stages had the appearance of tallow. As that increased, it dried into this tough, brownish-white membrane. He had seen the same diphtheritic condition on the healing surface of chancres.

A CASE OF EXTRHOPE OF THE BLADDER (WITH PHOTOGRAPHS),

by DR. A. T. CABOT, Boston.

Boy of five; well-nourished. Congenital exstrophy of the bladder and epispadias; defect in anterior abdominal wall perhaps three-fourths of an inch in diameter; and, as usual, the whole upper wall of urethra wanting. Abdominal wall lax. Decided to operate by parting the skin at a short distance around the defect, and then bringing it together with sutures, so that the under surface of the fold thus formed should be the anterior wall of the bladder. Operation, July, 1889. The epithelial covering of the surface immediately around the opening was very thin and closely attached to the tissues beneath. A line about one-half an inch wide was denuded at a sufficient distance from the edge of where the tissues were lax and could slide easily on the underlying parts. The only place where there was any difficulty in bringing the sides together was at the upper angle, where there was considerable scar-like tissue, the remains of the umbilical scar. This upper portion which came together hard, failed of union; but all of the lower part healed by first intention, and formed a bridge over the opening in the abdominal wall which prevented any considerable prolapse of the bladder mucous membrane. The opening between this bridge and the upper surface of the penis was so close that the escape of urine was much interfered with, and in consequence a considerable hydronephrosis formed; and during this time the boy became very weak and pale, and the amount of urine was considerably diminished. October 22d, second operation for providing a more free escape of urine. Body of penis removed; mucous membrane of urethra dissected off, and united to prepuce. Urine escaped much more freely. Boy rapidly recovered.

DR. BRYSON said that in case of deformities of the lower genital or urinary organs, we were apt to find deformities elsewhere, that is, hypospadias or undescended testicle, as a rule, indicated that there were other deformities, and he had wondered if that could possibly have anything to do with hydronephrosis.

DR. CABOT stated that the hydronephrotic condition came on very slowly.

A METHOD OF EMPLOYING ANTISEPSIS IN RECENT ANTERIOR URETHRITIS,

by DR. J. W. WHITE, Philadelphia, Pa.

Dr. White had used salol combined with cubeps and copaiba in tablets in about ninety cases of gonorrhœa. These cases were not selected, but were taken as they presented themselves. The amount of salol given was at first about four grains, six times a day. Later, the amount was increased. This treatment seemed to him to yield better results than cubeps and copaiba alone and indeed better than any form of treatment hitherto used by him. He merely wished to state his impression of the value of salol in gonorrhœa after a limited experience both in respect to time and number of cases.

DR. R. W. TAYLOR said the only tangible evidence that the gonococcus was the etiological factor in gonorrhœa rested upon the experiment of Bumm, who had inoculated the urethra of a woman with the twentieth culture of the gonococcus, and produced the disease; but the details of the environment of the case were not such as to make it certain that the gonorrhœa arose in its way. He did not deny that gonorrhœa might be the result of the gonococcus, but there was no proof of it other than that cited. The micro-organism theory was elusive in practice. He had found no good at all from retro-injections, or from injections of bichloride of mercury, in gonorrhœa. He did not think one could draw definite conclusions as to the efficacy of salol in this disease, so long as it was used in combination with other drugs like cubeps and copaiba. Time was also a very important element in testing a drug.

DR. BELFIELD thought Dr. White had taken a very rational position in the matter. In estimating the value of any drug in the treatment of gonorrhœa, we must bear in mind that the disease is often very closely simulated by something which is not gonorrhœa. A man who had had gonorrhœa might have an outbreak which closely resembled the genuine outbreak; and the clinical course of this would be much more favorable, whatever the therapeutics employed, than in case of a fresh infection of a virgin urethra. He believed gonorrhœa to be a parasitic disease, yet all the remedies which destroyed parasites had been unavailing in his hands, and he employed the purely empirical treatment of hydrastis locally, and an alkali. He had had no experience with the combination used by Dr. White. The fact that in any given urethra about one-half of the lacunæ opened backward was, as Dr. White had suggested, an important factor in the persistence and recurrence of gonorrhœa. The lacunæ which opened backward formed a nidus for the reception of gonorrhœal poison.

DR. F. T. BROWN said he was so thoroughly satisfied as to the position of Neisser, that he did all his work on the presumption that his statements were going to hold good. He had relied upon the Lafayette mixture, with the employment locally of bichlor-

ride retro-injections (1-30,000 to 1-15,000). After a week's use, he had generally combined a weak solution of nitrate of silver (1-1,000 or 1-2,000).

DR. J. B. WHITTE agreed with Dr. Taylor, that a specific cause of gonorrhœa was not proven, yet he thought the preponderance of evidence was to the effect that gonorrhœa was a specific disease. He had not seen satisfactory results from deep urethral injections. He had sometimes seen considerable urethrovaginal irritation occasioned by it. He had not had satisfactory results from the use of the bichloride solution, either in the mild or strong solution. He had obtained better results from simply washing out the urethra with warm water, and then injecting a mild hot solution of sulphate of zinc. As a rule, he did not give any internal treatment unless the symptoms required it.

DR. J. A. FORDYCE had used in 150 or 200 outpatients of the Bellevue Hospital a solution of nitrate of silver, about 1 to 4,000. This gave rise in some cases to bloody urine; in others, to great pain in urination, so that treatment had to be suspended or the solution made weaker. In some cases in which the nitrate of silver caused much pain, he gave the Lafayette mixture internally. He thought he got better results from this solution than from the ordinary injections, and felt disposed to continue its use.

DR. POST thought, in testing new remedies, first cases of gonorrhœa were the only ones that should be considered. He was surprised that so little value had been placed on the oil of sandalwood which he regarded the best of antibenorrhagics. It certainly was equal in efficacy upon the gonorrhœa with copaiba, and much less likely to overturn the stomach. His favorite injection was a very dilute solution of bichloride of mercury. He did not use injections during the acute, inflammatory stage.

DR. W. K. OTIS thought salol, if efficacious, a particularly good remedy, because, while giving that, it would not be necessary to give injections. If one believed in the gonococcus, one would not give injections in the acute stage, because the gonococcus was then out of the reach of injections, and one also took the risk of causing a posterior urethritis by washing the pus down the urethra. In case of fresh gonorrhœa, he thought recovery in six weeks was doing well. He was using injections of the nitrate of silver. Patients bore it well, as strong as 1 to 1,000.

DR. D. R. PALMER believed in the gonococcus and in the antisepctic treatment of gonorrhœa. He had had some very favorable experience in the matter of irrigation. This he applied with the culver nozzle rather than with the catheter. He believed we had not introduced all the medicaments that could possibly be of any benefit in the way of direct local application, and that the solution of the problem lay largely in internal medication. There had been an era of internal medication in the past, but that was a blind one compared to this. There were the same objections to internal treatment as to local treatment: the remedies used were liable to cause disturbance. Salol did not disturb the stomach, and should be given up to fifteen grains three times a day. He was surprised to hear the statements as to the strength of nitrate of silver solutions used. He began, in acute cases, with a little citrate of potash internally, and hot applications. As soon as it could be borne, he used bichloride of mercury, the strength of the wash being determined by

the sensitiveness of the urethra. A four per cent. solution of cocaine would relieve the sensitiveness, if it were great. He used the boric-acid injection for its soothing effect. In the stage of decline he used an injection of nitrate of silver, five to seven and one-half grains to the ounce. This injection was carried down fully six inches by means of the long solid-silver nozzle. If the patient complained of pain, he used cocaine. Such injections were given two or three times a week. Sometimes hot, boric-acid injections were used after them, and the patient was allowed to use at home any of the old injections. In short, he attempted to fight the disease "horse, foot and dragoons"; care being observed not to set up inflammatory trouble and tumefaction.

DR. GLENN said that during the last five years he had obtained good results from the use of weak, non-irritating injections of chloride and iodide of zinc, — iodide of zinc ten grains, chloride of zinc three grains, water six ounces, long syringe with good nozzle. He used it at any stage that the patient would endure it.

DR. L. B. BANGS said he had no routine treatment. He tried to overcome hyperaemia by rest in bed. He did not use bichloride injections. If he used bichloride irrigations it was to secure good drainage and soothe the mucous membrane.

DR. J. P. BRYSON alluded to a paper written by DR. BRYAN and himself, which was based on the observation of 1,394 cases of gonorrhœa observed tolerably carefully at the clinique. It gave the amplest possible clinical confirmation of the specificity of gonorrhœa and also of the assertion that the micrococcus of *Neisser* was the specific element in the production of the disease. The paper dwelt also upon two points connected with the internal administration of remedies: (1) the sterilization of the urine; (2) all those remedies which acted through the urine also acted, and, as he thought, more directly and thoroughly upon the gonococcus through the blood. His opinions were fully expressed in that paper, and had not in any way changed.

DR. J. W. WHITE said that he had seen exceeding severe irritation set up by an injection of nitrate of silver as strong as five to seven grains to the ounce of water, and also that he was afraid of urethral injections of cocaine.

AMERICAN NEUROLOGICAL ASSOCIATION.

The Sixteenth Annual Meeting was held in the Hall of the College of Physicians, Philadelphia, June 4, 5 and 6, 1890.

The President, DR. E. C. SPITZER, on calling the meeting to order for the business of the opening session said that though there might have been in the history of the society a period when it had devolved upon the presiding officer to fill gaps in the programme, this was no longer the case; and with such a plethora of scientific papers as confronted them, communications by the President might well, at this stage be omitted. He should like to thank the local neurological society for its courtesy and exertions on behalf of the national body. He would call attention to a very beautiful specimen of

MULTIPLE THROMBI OF THE CIRCLE OF WILLIS, prepared for their inspection. The patient from whom this was taken had been attacked by incomplete

left hemiplegia. The facial portion had remained stationary while the rest had improved. Then there had been another attack, involving the other side with parasthesia and pain. The case had terminated in coma and death soon after the second seizure.

UNUSUAL FORMS OF CHOREA, POSSIBLY OF SPINAL ORIGIN.

This was the title of a joint communication by DR. S. WEIR MITCHELL, and C. W. BURR.

The first case described was one of inherited, congenital chorea, possibly involving the spinal cord. The patient, a young man eighteen years of age, had presented himself at Dr. Mitchell's clinic in 1889, complaining of constant, involuntary movements of the legs, arms and head. The history of the patient's family was of special interest in this case.

His maternal grandmother had suffered from chorea for many years, not from birth; but she had while so affected given birth to the patient's mother, who was choreic from birth till death. Both the patient's parents had died of phthisis. There was no history of other cases of chorea or any nervous disease in the family. The patient's choreic movements had begun in early infancy, probably from birth, and as a child he was puny, and of tardy development. His present condition was that of a fairly built young man, of good strength, weighing one hundred and thirty pounds, and other than the condition immediately associated with the chorea, there was no physiological disturbance. Knee-jerk was increased on both sides, and the cremasteric, sole and abdominal reflexes were marked; ankle clonus was occasionally present, and at times rigidity at the knee, the feet being then turned inward at the ankle. All the conditions were increased by motion, and the administration of moderate doses of strychnia. Sensation to touch, pain and temperature were normal, and so was station. While awake the patient's entire voluntary muscular system was more or less in action. Sudden presence of a stranger emphasized the trouble. During sleep there was perfect quiet. No spinal tenderness existed; urine was normal; and so, with some slight muscular insufficiency excepted, was vision.

Dr. Mitchell then read in detail two other cases, in which the patients were brothers, their father having at forty-five years of age developed alleged choreic symptoms. The first of these two cases had resembled in general aspect canine chorea.

The authors of the paper thought the first of the series of three cases in which the disease had run through three generations, extremely rare and that organic changes were present somewhere in the motor tract of the patient might, they thought, be admitted, because of the extreme chronicity of the affection, its resistance to all treatment, and the presence of very distinct ankle-clonus and rigidity, these latter symptoms pointing to involvement of the cord. Whether the changes were confined to the cord it was more difficult to say. It was not wished to do more than indicate the spine as possibly implicated in all the cases.

DR. C. L. DANA, said he thought the view taken by Dr. Mitchell, as to the relation of heredity in chorea was the correct one.

DR. SACHS, suggested that some of the features Dr. Mitchell had mentioned in detailing his cases of chorea resembled somewhat the peculiar disorders of movement noticed in children with spastic palsies.

Some of these conditions appeared at a late date, and might be either mild or severe in character.

DR. MITCHELL said the view he had advanced was rather an hypothesis than a theory.

DR. SACHS said that he had seen these peculiar disorders present after every trace of the early paralysis had disappeared. In two of the cases cited, the patient had shown exaggerated reflexes which were also found in the congenital case, it was possible that one or other of the cases might be congenital palsy, in which the symptoms of palsy had disappeared. He could not abandon the idea that some of the cases described might show changes in some part of the brain.

DR. E. D. FISHER stated that he had seen a great many such cases as Dr. Sachs had referred to. In the almshouse they had both adults and children whose history was that of congenital paraplegia or hemiplegia of cerebral origin, and in which the paralyses were associated with well-marked choreic movements. It had seemed to the speaker that many of these cases where the condition had remained chronic for so long a time, were really not of the nature of ordinary chorea, which was a self-limited disease. He had always regarded these conditions as associated with sclerosis, leading to degeneration in the nerve-cells and nerve-fibres, and to descending degeneration in the cord. He had looked upon this as of cerebral origin, because it was found that the mental powers, though not greatly affected, showed some dulness, especially in the acquisition of knowledge.

DR. F. X. DERCUM thought it was not at all improbable that a spinal centre might be affected. No doubt there was a form which was purely spinal.

DR. WEIR MITCHELL said that many years ago he had stated his belief that ordinary chorea should be classified into three distinct groups. It was true that cerebral changes could arise in these choreic conditions, but it was rare to see these conditions affecting both sides, no matter what the changes were in the brain. Trouble in both lower extremities was especially rare; therefore the first case alluded to was not choreic, resulting originally from paralytic conditions accompanied by descending degeneration of the cord.

DOUBLE CONSCIOUSNESS.

Dr. Mitchell then alluded to the notorious case of Ansell Brown, who had left his home, assumed another name, and, as asserted, had lived for some time without knowledge of his previous existence. On regaining control of his proper identity, he had returned home. Hypnotism had been recently tried upon him, and while under its influence the man's mind could be made to revert to incidents in his fictitious existence, while of his real identity he would then know nothing.

DR. KNAPP cited a case of hystero-epilepsy, in which there were decided spells of changed consciousness. As to the question of spinal chorea, he was struck with the analogy of Sydenham's chorea with the conditions of ataxia, tonic spasm and associated movements of which he had recorded several cases, and to which some of these cases of chorea bore striking resemblance. It did not seem, however, that we were yet in a position to assume any one of these motor disturbances as having focal significance. They might have their origin anywhere within the motor tract, and he hoped to show that tumors were not unfrequently the cause.

THE WEATHER IN RELATION TO NEURALGIC PAIN.

DR. MITCHELL had had an intelligent patient of his, who was a great sufferer from neuralgic attacks, make elaborate studies and observations of the effect of variations of the weather upon the paroxysms. Briefly stated, the scientific findings were that the maximum of pain bore direct proportion to the prevalence of storms, and that the Aurora was a certain precursor of neuralgic exacerbation.

CHRONIC SOFTENING OF THE CORD.—SENILE PARAPLEGIA.

DR. C. L. DANA, of New York, read a paper on this subject, narrating a case which, he said, established upon firm foundation, for the first time, the fact that in the gray matter of the cord, there might exist progressive softening from obliterating arteritis, just as found in the brain. It also established the pathology of senile paraplegia, no convincing evidence as to the nature of which had, until recently, been adduced. The question of non-inflammatory softening of the cord had been but obscurely dealt with, or let entirely alone. Acute softening had been described usually as synonymous with acute myelitis, but the term was wrongly used, and should not be applied to inflammatory processes at all. It had of late been suggested that some of the cases of acute myelitis were, in fact, primarily necrotic processes, but evidence was lacking in substantiation. The case he would describe was not of the acute type, but was a chronic myelomalacia.

The patient, an old man of seventy years of age, of whose early life little could be elicited, except that he had been generally healthy, had, about four years ago, noticed some weakness of the legs. There was no pain. The condition had progressed, until one year ago there was complete disability to walk, incontinence of urine, and trouble with the rectal sphincters. When seen in 1889, the man had presented the characteristic appearances of senility. The symptoms of the disease were limited to the lower extremities, which were wasted and contractured, and knee-jerks were gone, there was no clonus or trepidation. Sensation was everywhere normal, indeed the condition was rather that of hyperesthesia. No pains in the legs, girdle pains or bedsores. Up to the time of the patient's death, which had resulted immediately from exhaustion, the general symptoms had changed but little. The mind was clear, though senile. The only gross changes in the cord or membranes was noticed in the anterior horns in the sections taken low down. The more minute examination of microscopical sections had demonstrated the case as one of degenerative endarteritis with sclerosis, obliteration of the vessels, causing the softening of the anterior horns and intermediate gray matter. This process was accompanied by secondary congestion, dilatation of small vessels and capillaries, but no hemorrhages. The condition was one of softening of the cord precisely analogous to the so-called softening of the brain. It was not inflammatory, and could not be termed an anterior polio-myelitis. It was not cell atrophy, and did not belong to the spinal forms of progressive muscular atrophy. While the change was, without doubt, largely a senile one, the cord did not correspond to the description of such conditions given by Leyden. The disease might be called a senile paraplegia from softening of the anterior horns due to obliterating arteritis.

(To be continued.)

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THE COUNTRY DOCTOR.

WONDER has often been expressed that the country doctor — and we make this remark knowing that there are illustrious exceptions — has not done more to advance medicine. He writes but little, makes few original investigations, and now that preliminary study with a preceptor, is growing less and less acceptable to medical schools, influences slightly professional opinion. We allude particularly (and we wish in what we say to be so understood) to the practitioner whose home is far from the metropolis, the medical school and hospital, who seldom finds time to get away for a day's vacation to attend clinics, witness a major operation, or even be present at an important medical meeting. He possibly takes one medical journal, or he may long since have given this up, "not having time to read it." He has frequent cases which he has carefully followed to their termination, and where he has been generously granted an autopsy; these cases, which would be instructive if reported, he has never written out; in fact, writing is irksome to him, and he has no incentive to contribute new data to science. It has not been his custom to take daily notes of his cases. He makes few changes in his practice, except as occasionally a consultation with some younger physician, fresh from clinics and hospital work, reminds him that methods and manners are changing. Now and then some old professor from the great Hospital Medical School comes into his section of the country for recreation, for hunting or fishing, and "posts him up" as to modern methods.

The country physician is both conservative and cautious. He is very shy of the new remedies. He would not dare to open the knee-joint antisepically and drain it for a traumatic arthritis, much less perform a resection, or laparotomy; if those operations are required, his metropolitan brother must be summoned. This timidity is not to be wondered at, it is so seldom that he sees cases requiring peculiar surgical skill. An ordinary amputation he does not fear; he gives his anesthetic and goes to work with a farm-hand for

his assistant; he makes his flaps *secundum artem*, dexterously takes up and ligatures the arteries, and puts on the dressing; thanks to healthy surroundings and good air, the operation is a success though done without antiseptics. As for the treatment of fractures, with his extemporized splints of clapboard, sole leather or glue, he claims as good results as his city brother. And it is an open question whether the city brethren could do as well if placed in the same circumstances.

In regard to the pharmaceutical part of his work, he labors under some disadvantages. There may be no apothecary in the village where he lives and he is obliged to furnish medicines. Consequently he must carry ample supplies with him of *tinct. ferri chloridi*, *pot. nitras.*, *pulv. Doveri*, *quinia sulphas*, *tinctura digitalis*, and various cathartics, diaphoretics and tonics. He has not been "pestered" (we use a term which is current among certain urban medical practitioners) with visits by the pharmaceutical travelling agents with their handsome gelatine-coated pills, their tablet triturates, and their "parvules," consequently the few remedies which he carries are in a rather crude shape.

The country doctor is still somewhat old-fashioned in his therapeutics. He does not hesitate to give tar-tarized antimony in colds and fevers (though in very small doses), but he has long since given up bleeding. Nitrate of potash still serves a variety of uses. He orders Dover's powder and warm wrappings to break up a cold, and has much faith in the liver as the source of all obscure ailments, and in the corrective efficacy of blue pill and black draught. He still treats dyspeptic stomachs with quassia-chip bitters, and if this does no good he gives judicious suggestions as to dieting. Dietetics does not constitute a favorite branch of therapeutics with him, yet experience has taught him many of the simplest and most peremptory rules.

A large part of the country physician's duties is to prescribe for those that are simply "run down," debilitated, suffering from "functional ailments," from cold, overwork, dietary indiscretions; and in treating such patients, he generally brings into exercise the principles of good judgment and common sense. Even if now and then a puzzling case, as of multiple peripheral neuritis, comes before him for diagnosis and treatment, though the diagnosis may be at fault, the treatment may not be altogether harmful.

In the management of children's diseases, the country physician may be somewhat badly off without the multitudinous preparations called "infants' foods," which his city *confrère* possesses, yet with pure cow's milk and flour gruel he gets along fairly well, and sees some cases of intense athresia recover under good hygiene on very simple nourishment, and finds indeed a pleasure in seeing his patients' city grandchildren grow healthy and strong under his care during their summer vacation.

In his obstetric practice, the average country physician, though he uses no antiseptics, has the benefit of pure air, and that is almost everything. He may be a little slow about putting on forceps, but he claims

that time with him is not so precious as to make "meddlesome midwifery" justifiable, and that in "hundreds of cases" he has seldom found the necessity for "interfering with nature's processes," yet for a severe emergency, he is generally equipped and equal.

The country physician deserves high consideration from his fellows, for his lot, if he be a successful practitioner, is a laborious and largely unselfish one; we say unselfish, for no one is more a servant of his constituency than he, and does so much drudgery for so little pay. When his work is done for the day his nights are by no means undisturbed by calls; he is really always tired, and seldom in mood for study or the microscope. His city *confrère*, having his patients near home, can do in a few hours an amount of work that would take the country practitioner all day long, for his patients are often a long distance from home. A drive of ten miles and back over a rough road in the forenoon, and a similar ride in another direction in the afternoon, with other calls sandwiched in, and an obstetric case in the night make considerable draughts on the energy of even the most vigorous man; and when we consider that the country doctor is generally a farmer as well, and think of the social demands on his time (he is often Superintendent of the Sunday School, leader of the "Class Meeting," or the "Prayer Meeting," President of the "Debating Society," or "Literary Club," perhaps "Chairman of the School Board"), we wonder at his powers of endurance and the extent and variety of his labors, and we feel that he rather deserves praise that he is so useful a man rather than blame that he has done so little for medical science.

THE SURGICAL FOURTH.

THE surgery of the Fourth of July is sufficient in itself to justify some forethought on the part of surgeons in the larger places, and presents possibilities not always pleasant to every one engaged in general practice.

The character of such surgery changes from year to year as fashion or progress in the knowledge and manufacture of explosives changes the character of the noise-producing materials. But a few years ago the blank cartridge lodged its wadding in the palm of the hand with wonderful frequency, and lockjaw was by no means an unfrequent sequel of such an accident in various parts of the country.

The deadly toy-pistol, as it was appropriately named by the press, has become less potent as a destructive agent because of the prejudice aroused against it as a dangerous plaything and the recognition of the necessity of caring for its wounds. It has been supplanted by the giant cracker. The pistol reaped its harvest among small boys of about a dozen years of age, more or less. The giant cracker seeks its victim among those boys whose size and years should give them the attributes of men. The results of the cracker are the more or less complete destruction of the hand in which it is held. These crackers are of various sizes designated by numbers, and vary from

those twice or three times the size of the ordinary cracker to those twenty times its size. Occasionally some foolhardy individual will hold one in his hand from a spirit of bravado, occasionally because it is supposed to be a Roman candle, but the majority of injuries are purely accidental. Either the fuse burns faster than was expected and the explosion takes place before the cracker can be dropped, or the cracker fails to explode for so long a time that it is supposed to have gone out, and it is picked up and explodes in the hand.

There is one peculiar feature of these giant-cracker explosions in the hand. In a large proportion of cases the base of the thumb is split open and a compound dislocation produced at the joint of the first metacarpal and the trapezium, so that the thumb and its metacarpal retain their connection with the rest of the hand only by the soft parts, the tip of the thumb being little or not at all injured. If these injuries are carefully cleaned of powder and dirt, they heal as readily as could be expected from the severity of the explosion and the extreme laceration of the wound; but the entire loss of the hand is not unusual. Tetanus is not a frequent result; no single instance of its occurrence after these injuries has occurred in the knowledge of the writer.

The Fourth just passed seems to have been less prolific in injuries than those that have recently preceded it, but it has left much to be desired. There appeared at the Boston City Hospital—the only hospital whose statistics are available at the moment of writing—twenty-one injuries from explosion, of more or less severity. At least seven of them will result in the very great diminution of the usefulness of the hand, though none demanded amputation of the arm.

It would be pleasant to think that the public was awakening to the wanton waste of life and limb our method of celebrating the Fourth incurs.

MEDICAL NOTES.

— Press despatches under date of about July 1st, announced cholera to be on the increase in and about Valencia, and to have broken out in Portugal. Some alarm is felt in London and Paris. In the latter city the government has put to work some 22,000 men at filtering the water-supply.

— The *Christian Union* for June 20th contains an article on "The Advantage of the Woman's College to the Women of America," by Mrs. Alice Freeman Palmer—who, as Miss Alice Freeman, was, until her marriage, the president of Wellesley College. Mrs. Palmer claims that one of the most important influences of the woman's college has been its influence for strong health. "In its robust pleasures and intellectual struggles it has had no place for the interesting invalids of former times. More than any one agency it has contributed to make blooming health expected of women. It has insisted upon regular and simple modes of life. It has founded gymnasiums

and encouraged athletic sports for girls. It has had field and lake and river at the service of its students, and has employed salaried physicians and directors for their safety and guidance. By its varied resources and opportunities it has shown how rich and honorable a thing physical life is, and how well worth maintaining at its highest point of enjoyment and power. All the college women I have known wish to be strong. They rarely confess themselves weak and ailing without an inward sense of shame. They know that lack of self-control — nervousness — is not a necessity even to this hurried and high-strung generation."

NEW ENGLAND.

— Among those who have died of typhoid fever in the recent epidemic in Waterbury, Conn., which is said to have been traced to a milk-supply, was City Engineer Weld, a member of the Waterbury Board of Health, and a practical sanitarian to whom the city is indebted for its system of sewers. This man had labored long and earnestly in defence of the public health so far as the removal of unfavorable conditions within the city limits was concerned; but in the prime of life he has been cut off by poison sent to the city from a farm where the farmer himself lay ill of typhoid fever and from which an employee had recently been taken to the City Hospital, there to die of the same malady.

Miscellany.

A PHYSICIAN'S NOTES IN CENTRAL AFRICA.

We find in the *British Medical Journal* for June 14th, some "Gleanings from the Diary of the Physician in Central Africa," from which we make a short extract relative to certain habits among the Wanyoro, one of the two most powerful tribes inhabiting the fertile lands between Lakes Victoria and Albert.

"When a woman is pregnant and labor commences, all the women of experience are summoned to assist her. She sits on her heels, her knees stretched far apart, while one or two women support her back and arms, and the midwife sits in front of her ready to receive the child. Delivery is promoted by rubbing the uterus. If the head presents it is considered a good sign; if the feet present, it announces misfortune to the family. Should an arm presentation occur, it is replaced and an attempt is made to turn; this operation is performed by men who receive special presents for the service. Should a woman die in childbirth, abdominal section is at once performed, and the child, whether living or dead, removed. Many women die of flooding, probably arising from attempts to remove the placenta. The umbilical cord is cut with a sharp splinter of reed, at a considerable distance from the navel, and is tied to the body of the child until it shrivels or falls off, which is hastened by frequent rubbings with fat. Ligation is quite unknown. The fifth day after birth the mother takes her child and sits with it on the threshold, and the name ceremonies take place. The child is suckled for eighteen months, during which time the mother lives apart from her husband. Many women are barren, and most of them have only two or three children. Unlimited polygamy

is stated to be one of the causes which reduces the population. Unyoro women only bear children between the ages of twelve and twenty-five. A son inherits all his father's wives, who become his wives, with the exception of his own mother. Theft is punished by confiscation of property for the benefit of the person robbed; murder, by the slaying of the murderer by the nearest relatives; and adultery, by the wife being beaten and a fine paid by the offender. Prostitutes are a privileged class, living under the protection of the king, and they are the servants of his wives. Though prostitution exists in all negro countries, it is officially sanctioned only in Unyoro. Private property in land does not exist. The passion for human flesh is hereditary in some families, but cannibalism is practised secretly. These wild tribes are not free from what are often thought to be the diseases of modern life. Epilepsy is common among them, and no cure is known for it. Insanity and also mental aberration are frequent; the latter is treated with herbal remedies, which effect an immediate cure by means of sweating and sleep. Polydactylism is rare; if the superfluous fingers are noticed at birth they are at once removed. Small-pox is much dreaded, and the pustules are opened and washed with warm water, but the sufferers usually die. Vaccination is quite unknown, and syphilis is very prevalent, but widespread disorganization is rare, and there is a tendency to self-healing. The sores are dressed with caustic herbs, and are thereby made worse. Exostosis is common, and its syphilitic origin recognized. The same is true of partial loss of pigment, which is very common in Uganda. Syphilis is said to have been unknown formerly; it has followed in the track of the Nubians."

A CASE IN WHICH CEREBRAL LOCALIZATION WAS ILLUSTRATED BY THE EFFECT OF MENTAL IMPRESSION.

DR. ANDREW H. SMITH reports a case, interesting in the above connection, in the *American Journal of the Medical Sciences* for July, 1890.

"Mr. I. consulted me about three years ago for a condition of the right wrist and hand, from which he had suffered for several years, and which resembled writer's cramp, but differed from that affection etiologically, and in that the condition was one of tremor rather than of spasm. It was not the result of any special or excessive use of the hand, and was associated with a slight degree of paresis of the right leg.

"There was a good deal of occipital pain, which I found to be dependent upon defective action of the ocular muscles. This was completely relieved by prisms selected by Dr. Noyes. Singularly, not only was the pain relieved by the use of the glasses, but the condition of the hand and leg was considerably improved.

"As a great variety of treatment had been tried before I saw the patient, and he had suffered much of many physicians, specialists included, I now advised him to rest content with the measure of relief he had obtained, and to desist from further treatment, diverting his mind as much as possible from his condition by active employment.

"Pursuing this course he has gotten on in the main very well up to the present time. His general health has improved, and the hand and leg are decidedly better. He is, however, still obliged to write with

his left hand, although the right is fairly useful for other purposes.

"This was his condition when, a few days ago, he became interested in reading the article in *Harper's Magazine* for May, in which Mr. Chittenden describes his experience in signing, as Register of the Treasury, 12,500 United States bonds in sixty-four hours, and the physical distress which the effort occasioned. As he progressed in the reading the Mr. I. experienced a severe pain, beginning in the right hand, running up the arm into the neck, then into the occiput, and at last settling with great intensity in a circumscribed spot on the left side of the head. In describing this pain to me he indicated with his finger as accurately as I could possibly have done, the exact situation of the postero-parietal convolution in which Ferrier locates the centre for the wrist and hand of the opposite side. Some pain was also experienced in the leg.

"Now, this gentleman had no knowledge whatever of cerebral localization beyond the broad fact that the brain on one side actuates the muscles on the other. The pain he described could not, therefore, have been the result of suggestion. The conclusion seems inevitable that the phenomena in the hand and leg had back of them a morbid condition of the cortical centre, and that this morbid condition was in such wise influenced by the direction of the mind toward the function of that centre as to express itself in pain. Probably the intermediate link between the mental action and the production of the pain was a vaso-motor disturbance.

"Experiments, especially those of Amidon, indicate that functional activity of a cortical centre may give rise to an appreciable increase of the local temperature. This observation, however, would seem to show that merely occupying the imagination with a function may excite a degree of disturbance in the centre corresponding to that function.

"From a diagnostic point of view, the attack of pain so strangely elicited is important as confirming a cortical origin of the symptoms. From the implication of the leg it is probable that the posterior portion of the convolution was also involved.

"If we accept Ferrier's earlier conclusions as to the function of the angular gyrus in relation to the movements of the eyes, we find in the proximity of this gyrus to the postero-parietal convolution a probable explanation of the improvement in the hand and leg when the eye-strain was relieved. The more recent views, however, as to the location of the centre for ocular movements, remove it so far from this region that this explanation scarcely seems tenable."

A CASE OF ACUTE PANCREATITIS.

THE interest in this class of cases leads us to print the following brief report of a case condensed in the *London Medical Recorder* from the *Wiener Med. Wochensch.*:

The patient, a man aged sixty, was suddenly taken ill with severe vomiting, headache, giddiness and depression. Soon the abdomen began to swell (the next night). There was dyspnea, also painfulness in the left hypochondrium. On reception into the Charité Hospital, a transverse retraction of the abdomen was to be noticed above the navel. Above and below this there was great distension. There was slight fever, with a weak pulse, and a few spots; and typhoid

fever was diagnosed. During six weeks the symptoms altered but little. Towards the end the vomited matter smelt as if decomposed. Within a fortnight afterwards the patient died. The autopsy showed complete necrosis of the pancreas, which lay in a sac formed by the surrounding organs, and containing a thick fluid, with remains of the vessels and some loose fatty tissue. Various openings led into the neighboring intestine. There was extensive necrosis of fatty tissue. The appearances seemed most probably the result of a very acute inflammation of the pancreas."

Correspondence.

A GRAND EXHIBITION OF HYPNOTIZING.

BOSTON, July 7, 1890.

MR. EDITOR:—Gentlemen who have of late been experimenting with a few individual cases in which the phenomena due to "suggestion" are apparently well marked, might find a wider field for investigation in the symptoms due to suggestion, which characterize the grand army (*sic!*) of invalids who are applicants for pensions.

A claim-agent fixes his penetrating glance upon some worthy fellow who gallantly served his country twenty-five years ago. Up to this time, he, the soldier, has been manfully at work supporting his family, unconscious of being the proud possessor of any chronic ailment, although, perhaps, at times he may have realized that a man of fifty or fifty-five years was not quite as spry and active as when he had only the burden of half that number upon his shoulders.

But the mesmeric gaze of the claim-agent brings him into subjection. As he comes under its influence, the suggestion is made after this fashion: "You straighten up slowly when I speak to you? That is due to chronic rheumatism of the back, which you contracted when you were on picket at Mine Run, you remember that you got wet in the swamps. You have pain in your bowels? Yes, of course! The diarrhea that followed eating the mince pies sent you from home at Brandy Station, and which, if it had continued, would have become chronic, has undermined your digestive system and you are a perfect wreck. You are not fit to work any more; go see your local physician and tell him all your symptoms—be sure and tell him all, or even a few more—and ask him if in his opinion they are not all attributable to exposure during your army service. Write to your regimental surgeon for a certificate to the fact of your getting a backache while on picket and the diarrhea during winter quarters. Get a few more certificates from company officers and comrades, then bring them all to me, and I will get you a pension so that you need labor no more."

Once fairly hypnotized, the good fellow comes readily under the influence of friends and pensioned comrades who make similar suggestions. Forced to follow these, the man seeks his local physician, who truthfully tells him that nothing in civil life would produce such a jumble of symptoms, and consequently they must be due to his army experience. The regimental surgeon finds in an old notebook memoranda of the two illnesses, and properly certifies to the facts. The examiner for pensions looks at the evidence, and endeavors to connect the assigned cause with the stated present condition, and honestly (for the man is now really ill by suggestion) passes him; although it may not be exactly clear to him how it came about. Now I maintain that in a considerable proportion of applications for invalid pensions (and I mean those where no fraud is intended), the specific hypnotization practiced by the claim-agent, aided by the generally prevalent impression in the community, that army service must injure a man's health in some way, makes a man really ill. *The man is honest in thinking himself affected with some disease.* A case in point: one of the most straight-forward young

men whom I ever knew, a first-rate non-commissioned officer of the medical department, plucky and honest, came to me in these latter years with the story of failing eyesight, which all of his friends assured him must have had its origin at a time when his regiment was camped in a valley, so situated that the thick smoke from the camp-fires of the corps settled down among the tents for several days, warranting the appellation given it of "Smoky Hollow." I referred him to an eminent oculist, who plainly told him that his sight was good enough for a man of fifty, and that nothing was the matter with his eyes, save the wear and tear of twenty-five years' use since he left the army. In his honest, man-fashioned way, he at once gave up all thought of applying for a pension, although he well knew that others of his comrades had obtained such for no better cause than his.

It seems proper that the medical profession should protest against this manufacture of disease by suggestion. If we must have hypnotism in daily life, let it be remedial, not causative. I am not writing against pensions, I am only setting forth the fact that the pension germ has been a powerful factor in producing disease in that portion of the community who served their country in the field during the late war. I do not keep up with the times in the study of germs, but I think that I am right in stating that this

peculiar germ differs from all others in having no specific function, but can infect any portion of the system, causing any disease in any part from an ingrowing toe-nail to a bald head.

AN OLD ARMY SURGEON.

IODIDE OF SODIUM AND IODIDE OF POTASSIUM.

SALEM, July 3, 1890.

MR. EDITOR:—In the March-April number of *Annales d'Oculistique* is a brief article, signed "W" (presumably Dr. Warlomont), referring to a paper, by Dr. Laborde, on the comparative action of the two above-named salts, which was read before the Paris Academy of Medicine on the 4th of March.

It is an unpleasant surprise to those of us who have prescribed the sodium iodide, because it is more palatable and better borne, apparently, than its displaced isomer, to be informed on high authority that it is almost inert. As to the bromide of sodium, clinical experience in the use of this salt seems to warrant the belief that its action is nearly identical with that of the bromide of potassium.

D. COOGIN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 28, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each Year.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	875	499	32.45	8.80	3.63	22.88	.11
Chicago	1,100,000	386	167	22.62	12.10	2.86	8.32	7.80
Philadelphia	1,061,277	536	292	23.56	7.41	.76	19.76	1.90
Brooklyn	852,467	473	290	38.01	7.77	4.83	29.40	.63
St. Louis	550,000	—	—	—	—	—	—	—
Baltimore	500,343	262	129	32.76	6.24	.39	28.08	.78
Boston	418,110	140	49	16.33	17.04	10.65	2.13	.71
Cincinnati	325,000	234	127	30.96	4.30	2.58	22.36	2.15
New Orleans	260,000	158	61	18.90	11.34	—	11.97	1.26
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	220,000	143	73	31.50	8.40	1.40	21.70	4.90
Nashville	68,513	41	18	31.72	4.88	—	26.84	—
Charleston	60,145	45	17	13.32	15.55	—	4.44	4.44
Portland	42,000	8	3	—	12.50	—	—	—
Worcester	31,622	25	11	16.00	8.00	16.00	—	—
Lowell	37,370	30	11	13.33	14.33	—	13.33	—
Cambridge	67,026	22	8	7.14	11.71	—	3.57	3.57
Fall River	64,092	28	18	26.56	17.85	3.37	25.00	—
Lynn	55,200	5	5	—	60.00	—	—	—
Springfield	41,520	—	—	—	—	—	—	—
Lawrence	41,068	17	7	11.76	23.52	—	—	5.88
New Bedford	38,218	15	1	6.66	26.66	—	—	6.66
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,510	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,242	9	3	—	11.11	—	—	—
Chelsea	28,781	9	1	33.33	22.22	11.11	11.11	11.11
Haverhill	27,124	4	2	50.00	—	—	25.00	—
Taunton	25,544	4	1	—	25.00	—	—	—
Glocester	24,904	5	0	40.00	—	—	—	—
Newton	22,011	3	1	—	—	—	—	—
Malden	20,615	11	5	—	18.18	—	—	—
Waltham	17,998	3	1	—	33.33	—	—	—
Fitchburg	17,304	3	0	—	—	—	—	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	2	0	—	50.00	—	—	—
Quincy	14,114	6	2	33.33	16.66	—	—	16.66
Newburyport	13,915	2	0	—	50.00	—	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,484; under five years of age 1,792; principal infectious diseases (small-pox, measles, diphtheria and croup, consumption 316, acute lung diseases 230, diarrhoeal diseases 638, diphtheria and croup 96, typhoid fever 88, measles 39, whooping-cough 33, cerebro-spinal meningitis 25, malarial fever 18, scarlet fever 14, puerperal fever 7, erysipelas 2).

From measles, New York 27, Brooklyn 4, Baltimore 3, Chicago, Philadelphia, Boston, New Orleans and Lawrence 1 each. From whooping-cough, New York 11, Brooklyn 6, Cincinnati 5, Chicago

and Baltimore 3 each, Philadelphia 2, Boston, Nashville and Charleston 1 each. From cerebro-spinal meningitis, Chicago, Cincinnati and Worcester 4 each, New York 3, Washington 3 each, Brooklyn and Gloucester 2 each, Baltimore, Fall River and Chelsea 1 each. From malarial fever, New Orleans 8, New York 5, Brooklyn 2, Nashville, Charleston and Haverhill 1 each. From scarlet fever, New York 6, Chicago, Philadelphia and Baltimore 2 each, Brooklyn and Boston 1 each. From puerperal fever, Chicago 4, Washington 2, Philadelphia 1. From erysipelas, New York and Boston 1 each.

The meteorological record for the week ending June 28, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, June 28, 1890.														
Sunday, . . . 22	29.98	59.0	63.0	56.0	81	83	82.0	E.	E.	12	P.	O.		
Monday, . . . 23	29.96	59.0	63.0	56.0	81	83	82.0	N.W.	E.	10	C.	O.		
Tuesday, . . . 24	29.96	71.0	81.0	59.0	85	86	85.0	S.W.	S.W.	9	O.	O.		
Wednesday, . . . 25	29.75	75.0	86.0	65.0	86	46	66.0	S.W.	W.	12	O.	O.		
Thursday, . . . 26	29.72	73.0	81.0	65.0	53	65	59.0	N.W.	N.	24	F.	F.		
Friday, . . . 27	29.81	67.0	71.0	62.0	65	67	66.0	N.E.	S.W.	10	O.	O.		
Saturday, . . . 28	29.79	67.0	75.0	60.0	55	81	68.0	N.W.	E.	12	G.	G.		
Mean for Week.														

* O., cloudy ; C., clear ; F., fair ; G., fog ; H., hazy ; S., smoky ; R., rain ; T., threatening ; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 28, 1890, TO JULY 4, 1890.

By direction of the Acting Secretary of War, leave of absence for four months is granted Major JAMES P. KIRKALL, surgeon, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him. Par. 6, S. O. 152, A. G. O., July 1, 1890, Washington, D. C.

First Lieutenant ROBERT R. BALL, assistant surgeon, is relieved from duty at Fort Riley, Kansas, and will report in person to the commanding officer, Fort Spokane, Washington, for duty. S. O. 151, Par. 7, A. G. O., June 28, 1890, Washington, D. C.

Captain WILLIAM H. CORBUISIER, assistant surgeon, is relieved from duty at Fort Lewis, Colorado, and will report in person to the commanding officer, Fort Wayne, Michigan, for duty. S. O. 151, Par. 7, A. G. O., June 28, 1890, Washington, D. C.

By direction of the Secretary of War, the following named assistant surgeons (recently appointed) will report in person to the commanding officer of the posts designated opposite their respective names:

First Lieutenant FRANK R. KEEPER, Fort Leavenworth, Kansas.

First Lieutenant THOMAS U. RAYMOND, Fort Sherman, Idaho.

First Lieutenant HENRY D. SNYDER, Fort Reno, Indian Territory.

First Lieutenant ALLEN M. SMITH, Fort Snelling, Minnesota.

First Lieutenant ASHTON H. HEYD, Fort Niobrara, Nebraska.

First Lieutenant JOSEPH P. CLARK, Fort Riley, Kansas.

Par. 6, S. O. 151, A. G. O., June 28, 1890, Washington, D. C.

By direction of the Secretary of War, leave of absence for two months to take effect August 6, 1890, is granted First Lieutenant WILLIAM N. SUTER, assistant surgeon. Par. 3, S. O., June 26, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 5, 1890.

PAGE, J. E., assistant surgeon. Ordered to hospital, Mare Island, Cal.

KENNEDY, R. M., assistant surgeon. Ordered to the League Island Navy Yard, Pa.

OBITUARY. HON. WILLIAM D. PECK, M.D., M.M.S.S.

Dr. William D. Peck, who died at Sterling, Mass., June 29th, had been director of the Boston, Clinton & Fitchburg railroads, and president of the Framingham & Lowell, director of the State Mutual Life Insurance Company of Worcester, director of the Fitchburg National Bank, and president of the Fitchburg Savings Bank. In Sterling for forty-four years he was honored with a continued reelection to the town clerkship, and for thirty-two years he was town treasurer and collector. Dr. Peck's service in the Legislature included three terms in the House and two in the Senate; his law career beginning in 1848, and ending in 1859. Among his classes in the noted class of 1853, Harvard College, were Professor Francis Brown, Professor Joseph Lovering, Professor Henry W. Torrey, and Professor Jeffries Wyman, who all became teachers at their college, and Rev. Dr. George E. Ellis, and Dr. Morrill Wyman. Dr. Peck was born in Cambridge, November 10, 1812, his father being

William Dandridge Peck, the first professor of natural history at Harvard (1805-1822), and his mother being a member of the Hilliard family. The son was much interested in the study of natural history and geology throughout his life. His degree of M.D., was obtained at the Harvard Medical School in 1836, the only surviving members of that class being Oliver Wendell Holmes, Alfred Day, and William Ingalls. His widow and two daughters survive him.

OBITUARY. CHARLES LINNAEUS ALLEN, M.D.

Dr. Charles Linnaeus Allen, died July 24, at Rutland, Vt., of apoplexy. He was born at Brattleboro, June 21, 1820, was graduated from Middlebury College in 1842, and from Castleton Medical College in 1846. He was president of the latter college for several years, and was afterward Professor of Civil and Military Hygiene in the University of Vermont at Burlington. Except during Cleveland's administration, he had been since the War, a member of the Board of Local Pension Examiners. He was Secretary of the State Board of Health, and had been connected with the Board since its organization. He was the first president of the Rutland Medical Club, and a member of the Vermont State Medical Society, the American Medical Association, the American Academy of Medicine, and other societies.

ERRATUM.

In the Journal of June 29th, on page 642, right-hand column, seventh line from bottom, "Dr. Adams, Pittsfield," should read "Dr. Z. B. Adams, Framingham."

BOOKS AND PAMPHLETS RECEIVED.

Climatology and Diseases of Southern California. By F. D. Bullard, A.M., M.D. Reprint. 1890.

Woman's Medical College of the New York Infirmary. Twenty-Second Annual Catalogue and Announcement. June, 1890.

A Last Word about Christian Science, Mind-Cure and Allied Methods of Treatment. By Selwyn A. Russell, M.D. Albany, 1890.

Les Conditions Matérielles d'une Bonne Salle d'Opérations. Par le Dr. Just Lucas-Championniere, Chirurgien de l'Hôpital Saint-Louis. Paris, 1890.

Another Hitherto Undescribed Disease of the Ovaries. Anomalous Menstrual Bodies. By Mary A. Dixon Jones, M.D., Brooklyn. Reprint. 1890.

Catalogue of the Albany Medical College, Medical Department of Union University. Fifty-Ninth Session, 1889-90. Announcement for Session, 1890-91.

Formulaire Aide-Mémoire de la Faculté de Médecine et des Médecins des Hôpitaux de Paris. Par le Dr. Fernand Roux. Paris: G. Steinheil. Editeur. 1890.

New Methods of Performing Pylorectomy, With Remarks Upon Intestinal Gastrectomy Operations. By A. V. L. Brokaw, M.D., St. Louis, Mo. Reprint. 1890.

Outlines of Practical History, A Manual for Students. By William Stirling, M.D., Sc.D. Blackbury Professor of Physiology and Histology in the Owens College, Manchester, etc. With 344 illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

Lecture.**INFLUENZA IN MASSACHUSETTS.¹**

BY GEORGE E. SHATTUCK, M.D., OF BOSTON.

THE registration of vital statistics has now been carried on long enough in this Commonwealth, is now sufficiently accurate and is compiled with such care as to make it of great service in any relative study of the past and present of diseases here. The statistics accumulated by the immense extension of life insurance, and the meteorological records of the United States Weather Bureau are other advantages of which the student can make use to-day. So that, notwithstanding the decreasing homogeneity and the increasing density of population, notwithstanding the complexity of pursuits and the exaggerated wear and tear of life, the task of one who seeks to investigate the climate of the Commonwealth and the diseases of its inhabitants is certainly simplified in some important particulars — at least over the time, not so long distant, when the inquirer's main resource was a slow and precarious correspondence by letter with brother practitioners.

INFLUENZA.

Some such thoughts undoubtedly occurred to many when the recent pandemic of influenza swept over the world. It seemed positively churlish to deny hope the impulse to spring once more eternal in the medical breast. With the aid of the telegraph and the submarine cable; of rapid transit by sea and land; of numerous weekly medical publications as well as of the daily press; of the facilities for collective investigation afforded by the frequent meeting of medical societies in Europe and the United States, by the machinery of central bureaus and local boards of health with mortality rates and registration of returns; and above all with the aid of the entirely modern bacteriologist armed with his immersion lens, his culture tubes and his staining preparations — was it not legitimate to hope that, if with the co-operation of all these more or less modern appliances we searched out the secrets of Nature faithfully, we should be able to penetrate a little farther behind her mysteries in this particular disease? Was it not legitimate to trust that we should be able to bequeath to the future something more than we have received from the past, should at least definitely determine some of the doubtful points which presented themselves after the preceding pandemics to puzzle or ensnare the Sydenham Society, and Sir Thomas Watson and Hirsch and other sources of previous wisdom? In short that we should be able to say to our successors something more than that an "influence" coming from we knew not whence, disappearing we knew not whither, and making a large proportion of mankind ill we knew not why, had afflicted the world at a certain date? It is now more than six months since the influenza made its appearance as an epidemic in Western Europe, and more than four months since it ceased to be epidemic in this Commonwealth.

In Berlin, in Munich, and in Paris, Committees of Medical Societies, aided by government, and in London the Local Government Board have been at work upon Collective Investigations of the epidemic; the

¹ Delivered before the Massachusetts Medical Society June 10, 1890. Continued from page 29 of the Journal.

Munich Committee's returns were to be in March 15th, and the Berlin Committee's returns March 21st. The results have not yet reached us, though their probable tenor in each country may be guessed at from the reports of Society meetings, and communications to medical journals, all of which I have reviewed. I have been struck with the reappearance of the same questions arising to perplex observers in turn in all affected regions; with the inevitable tendency to make the disease fit the limited observation of the individual; with repeated proofs of the strength of the temptation to construct a theory upon what passes before one pair of eyes. I even think papers in Medical Journals will show that men who inclined to the explanation of contagion found a larger percentage of enlarged spleens than men who held to the miasmatic theory.

The time which has elapsed is not sufficient for the record and comparison of observations and experiences in different parts of the world; the distance from the preoccupations caused by the rapid succession of crowded days is not sufficient to afford the necessary perspective for so extended a field.

I shall ask your attention then, during the time which remains, to a brief consideration of some points in regard to influenza as exhibited in the last epidemic in Massachusetts. My own interest in the subject is derived from the experience of a large hospital service, of private practice, of personal illness in Boston, and of a general experience in Paris — all within the space of six weeks, from the middle of December, 1889, to February 1, 1890, and of a pretty careful review of the old and recent literature of the subject since the cessation of the epidemic.

So quickly do events succeed each other in our age and so rapidly are the scenes of life shifted, I do not doubt that to some of you the subject seems already old and threadbare. I fear I cannot offer a sure key to any of its mysteries, and I may not tell you anything new, and I may weary you; but I shall, at least, protect myself from a repetition of the comment of an esteemed colleague who, when asked lately about a certain address before a medical meeting, exclaimed: "Oh! you know what it was like, some quotations from Scripture, and not a word about medicine!"

ORIGIN.

Where did the influenza have its origin, where did it come from? Europe first heard of it in Russia, where it was reported as epidemic about the middle of last October — hence it has frequently been spoken of since as the Russian Influenza; — a designation given for the same reason in several previous epidemics. At the same time that influenza exhibited itself in epidemic form at St. Petersburg (60° N. Lat., 30° E. Long.), the middle of October, it was also active at Tomsk, 1,800 miles to the eastward in Siberia (56° N. Lat., 85° E. Long.). A severe epidemic is reported² to have run its course in Bokhara, a district of Chinese Tartary (40° N. Lat., 85° E. Long.), between the end of May and August, 1889. This is really about all the information which we have on the subject of origin up to date. For affording trustworthy epidemiological data the heart of Asia is about what it was in the Middle Ages or at the time of the Garden of Eden, and, although further time for corrected returns

² Prof. Drasche: Wien. Med. Woehen., No. 6, February 8, 1890, p. 219.

from these outlying districts may possibly produce something less vague, the probability is that our successors will learn from us as to the origin of this epidemic what we have learned from our predecessors as to some others — "that it came from the East."

Present information indicates that the *epidemic* began in Berlin, the middle of November; in Hamburg, about the first of December; in Leipzig, about December 10th; in Cologne, December 1st; in Paris, November 26th. (November 26th was the date of the outbreak at the great Louvre Stores.) In Southern Germany, in Austria, in Turkey it was later. In Wurzburg and Munich it began about the middle of December; in Vienna, December 12th; Pesth, December 15th; Belgrade, December 16th; Bucharest and Sophia, December 24th. To the north of Paris, it began at Brussels, December 12th, and Antwerp, December 16th. At London it began the end of December; Madrid, December 14th; Malaga, December 12th; Lisbon, December 21st; Alexandria, December 25th; Cape Town, first week in January.

INFLUENZA IN MASSACHUSETTS.

Our State Board of Health has again justified the position which it has made for itself, by sending out promptly in January circulars to physicians, public institutions, and factories and employers throughout the State, thus providing for a collective investigation of this epidemic within the borders of Massachusetts. The board has very courteously allowed me to look over and collate the replies which have been received, and I am therefore enabled to give you more extended results than would otherwise have been possible, in anticipation of the Board's Annual Report.

The Secretary, Dr. Abbott, will work over these same returns for the Board's report; but it is not amiss that returns as complicated and as difficult of interpretation as these are should be handled independently by more than one individual, that possible errors or prejudices may be modified, on one side or on the other.

The following is a copy of the circular. Those sent to physicians and public institutions were the same; those sent to factories and employers varied as indicated in questions numbered 1, 3, 4, 5 and 6. The question in regard to sex is somewhat ambiguous.

COMMONWEALTH OF MASSACHUSETTS.

OFFICE OF STATE BOARD OF HEALTH,
13 Beacon St., Boston, January, 1890.

DEAR SIR: In view of the general epidemic of influenza now prevailing, the State Board of Health desires to obtain such information as is possible regarding its appearance in Massachusetts during the present season, and, therefore, respectfully requests a reply to the following questions:

- (1) What was the date of first appearance of the epidemic in your neighborhood? (or institution?) (or among your operatives?)
- (2) In what week was it most prevalent?
- (3) What estimated proportion or percentage of the population in your community was attacked? (or of persons employed by you?)
- (4) What ages or periods of life were most affected?
- (5) Which sex was affected most severely?
- (6) What was the average duration of the attack (or length of absence from work?) in days?
- (7) What symptoms predominated in the cases under your observation?

* In the Mercantile Circular, Nos. 4, 7 and 8 were omitted.

- (8) What other diseases were increased in frequency or severity simultaneously with the epidemic of influenza?

MANUFACTURER'S CIRCULAR.

- (4) What proportion or percentage were obliged to leave their work in consequence of such illness?
- (5) What was the average duration of the attack?
- (6) Which sex was affected most severely?

Respectfully yours,

SAMUEL W. ABBOTT, *Secretary.*

From physicians, 192 replies were received; from public institutions, 24; from factories and employers, 178 replies were received.

PUBLIC INSTITUTIONS — SUFFOLK COUNTY.

The returns from nine of the principal hospitals of Boston, including the Marine Hospital at Chelsea, and the Boston Lunatic Hospital at South Boston, cover about 2,000 people, and indicate that the epidemic began in these institutions about December 21st, and was most active during the week from December 28th to January 4th. The City Hospital reports the earliest first case occurring December 16th, the New England Hospital the latest first case occurring December 23. The McLean Asylum, Somerville, reports the smallest percentage of inmates affected, namely: 10%. With 336 inmates there were 34 cases, of whom 16 were male and 18 were female; only two patients were attacked, the other 32 cases being among the attendants or employees. The New England Hospital for Women reports the largest percentage (75%) of inmates affected. At the Children's Hospital 75% of officers and employees were attacked, and only 33% of the patients; adults reported as somewhat more susceptible than children. At the Adams Nervous Asylum 45% of the inmates — 30 out of 65 — were attacked; at the City Hospital 25% of the patients and 25% of officers and employees. At the Massachusetts Hospital, Dr. Pratt writes: "it seemed at one time that every one resident in the hospital had symptoms of the disease," and nurses and attendants were especially victims. At the State Prison, Charlestown, 40% of the inmates were attacked, the first December 21st; and Dr. Sawin writes, "there was not a single case of pneumonia at the prison, although I saw many cases in private practice"; on the other hand, 8% of those affected had diarrhoea, and bronchitis was as usual frequent.

Conclusions. — As to dates these returns agree pretty well with those of the mercantile companies, and those of the doctors, with the natural difference that these first cases are reported, as a rule, a few days later. Of seven reporting the percentage of patients attacked, the average is 41%. I do not feel justified in drawing any positive conclusion as to sex. There is nothing which appears positively to indicate exposure to the atmosphere or contagion as a factor, unless in the case of the McLean Asylum, where only two patients were attacked, and of the Massachusetts Hospital where the attendants suffered more, one infers that the attendants were more out of doors. At the City Hospital, on the other hand, the percentage of the two classes was equal; and in regard to the Children's Hospital, where 75% of officers and employees suffered but only 33% of patients, it is to be remembered that children were in general less susceptible to influenza.

Of these institutions, the City and Massachusetts

Hospitals are the only ones reporting pneumonia as a complication of or sequel to influenza.

PUBLIC INSTITUTIONS—OUTSIDE OF SUFFOLK COUNTY.

Outside of Suffolk County, 12 public institutions reported, of which five are Insane Hospitals, one (at Tewksbury) an almshouse, and the others are schools or reformatories. Danvers is the most easterly and Northampton the most westerly point represented, and, strangely enough, each reports its first case as occurring on the same day, December 25th, and, contrary to what might be expected, the epidemic reached its height at Danvers Lunatic Hospital as late as the third week of January, whereas at the similar Northampton institution it culminated the second week of January; at Danvers 30% were attacked, but at Northampton only 10%.

The Tewksbury Almshouse (North Middlesex) with its constant receipt of inmates from Boston, reports the earliest first case, December 18th, only two days later than the first case of the Boston City Hospital; the Primary School at Monson (East Hampden) and the Lyman School for boys at Westboro' (West Worcester) come next with December 19th, although the Homeopathic Insane Hospital at Westboro' and the Massachusetts Reformatory at Monson do not report their first cases until December 22d and December 26th respectively.

The latest first cases occurred at the Lancaster State Industrial School (Worcester) and the Worcester Insane Hospital, at each January 3d, but the most active week at the former was the third week of January, and at the latter the second week. The Taunton Insane Hospital (Bristol), reports its first case December 30th; the State Farm, Bridgewater (Plymouth), December 31st; but the culminating week at the former was the third week of January, and at the latter the second week.

The epidemic reached its height a week earlier at the Primary School at Monson than at the Lyman School, Westboro', last week of December and first week of January respectively, although it first appeared at both on the same day. The largest percentage attacked was at the Primary School, Monson (56%); the smallest percentage (5%) at the Worcester, and the next smallest (10%) at the Northampton Insane Hospital. The Lyman School for boys reports 50%; the Lancaster Industrial School 42%; the Reformatory Prison for Women, Sherborne, 40%; the Tewksbury Almshouse 40% of its officers, and 33% of its inmates.

The Danvers Hospital, with 30% of inmates attacked, reports an intercurrent epidemic of measles with nine cases, and one of erysipelas with six cases; there were a few committals in which the exciting cause seemed to be influenza; the senile were less frequently affected by influenza and females more than males. At the Westboro' Hospital "more females were attacked, but the worst cases were males"; at the Worcester Insane Hospital more males were attacked. The Woman's Prison, Sherborne, is the only institution specifying insomnia as a complication. Only four of this group report pneumonia as a complication or sequel.

Conclusions:—In the reports of these twelve institutions it certainly does not appear that geographical position was an important factor as influencing the

date of the first case or the maximum week. How far contagion could have had an influence we have no data to decide; all these institutions are on more or less frequented lines of travel and all receive inmates from the outside world.

The letter⁴ accompanying the report of the Lyman School for Boys, Westboro', taken alone, suggests contagion. No very definite conclusions can be drawn as to the matter of sex.

The average per cent. of the affected at eleven institutions reporting was 32%, compared with an average of 41% in Suffolk County.

MERCANTILE AND MEDICAL RETURNS.

Returns were received from 178 manufacturers and mercantile houses, representing all the counties of the State except Dukes and Nantucket. Of these I have tabulated 142, leaving out those which for one reason or another seemed too vague or unreliable. It cannot be said that all those, by any means, which have been included are entirely trustworthy, some are evidently more careful than others, but on the whole, perhaps, the errors to some degree tend to correct each other. I have endeavored to compare these returns from manufacturers with each other and with those from the doctors throughout the State, of which 192 were received and of which I have tabulated 179. I fear the success as to results is not proportionate to the amount of labor involved, but such as it is I will ask your attention to it.

Beginning with south-eastern and eastern counties, I will pass to the western counties in order.

NANTUCKET COUNTY.

This Island County, standing with its neighbor Dukes alone as outposts in the Atlantic, sends only medical returns, for the good reason that manufactures do not exist. There are five medical returns from the town of Nantucket and vicinity. One places the first case December 20th, and the maximum week the first week of January; the other four range the first case between December 30th and January 4th, three make the third week of January the maximum week and one the second week.

Three think males were more affected, and two females. One reports pneumonia as increased, and two pulmonary diseases. The only return as to proportion of population affected, states 25%.

DUKES COUNTY.

From this Island County also there are only medical returns; here, as at Nantucket, the population lives mainly by the sea.

There are five returns. The earliest first case is reported from Vineyard Haven on the north shore December 25th, but this was one of several exotic cases brought in by the Revenue Cutter *Gallatin*, and another return from the same place dates the first native case January 2d; the other three returns from Edgartown, Cottage City, and West Tisbury date the first case January 1st; three returns giving a maximum week, name first, second and third weeks

⁴ "The first case was a teacher in one of the Schools who had charge of thirty boys. About December 14th she spent a day in Boston, and was taken ill December 19th, recovering in four days. In about five days the boys in her school began to sicken, and it is believed they had the disease before the teacher did. I should say all were within a week and before the disease appeared in any other school. The disease then invaded the nearest school, and in a few days had reached all of the six which make up the institution. Out of 190 boys, 132 had the influenza."

of January; these same returns give 20%, 33% and 66% as the proportions of population affected. Average 40%. Two returns state that males were more affected, and one that females, "because males had greater power to throw off the disease quickly." One return gives pneumonia and one pulmonary diseases as increased.

Conclusions. — The return from these island counties indicate that influenza invaded them two weeks later than the mainland further east. In the winter months they have comparatively little communication with the mainland; the population is thus less exposed to contagion, though freely open to atmospheric effects, especially those coming from the eastward across the Atlantic.

Before drawing the obvious conclusions in favor of contagion and against atmospheric miasm I ask your attention to two interesting letters.

Dr. Banks, Surgeon Marine-Hospital Service, writes from Vineyard Haven, January 25th: "December 25th I treated seven cases, seamen landed from the Revenue Cutter Gallatin which put in here in consequence of this trouble with her crew." This is the first record I have of the appearance of the epidemic here, and shortly after I was seized with an illness of a like character. . . .

"In this connection as showing an undoubted atmospheric influence in the propagation of the disease, read a report similar to mine comprising seventeen cases on the Revenue Cutters* Woodbury and Dallas at Portland, Me., which occurred on board these vessels while at sea attending to their duties in cruising along the coast."

Dr. Luce writes from West Tisbury, January 31st:—"I first observed the epidemic during the spring of 1889, when it appeared in its greatest severity during the months of March and April. It was not then epidemic in the State, so far as I know. I should think that at this time about one-third of the inhabitants were affected. . . . It was most frequent among males, especially among fishermen and those exposed to inclement weather. The symptoms in this epidemic were principally referable to the respiratory organs.

"The present epidemic began about the first of January and is still upon us, affecting fully two-thirds of the population. In some instances the schools have been closed, so many of the pupils were affected. It affects all ages, but is principally confined to males.

"The symptoms are more variable than in previous epidemics. I think I recognize three different forms of the disease: (1) bronchial or catarrhal; (2) febrile, with a second rise in temperature after the drop in several cases; (3) neuralgic.

"I have seen only one case of supervening pneumonia, and that was in the spring epidemic. I have seen in connection with the present epidemic four cases of herpes zoster, more than I have seen here before in many years. Influenza seems to be a common disease here."

Dr. Lane writes also from Vineyard Haven: "There was no evidence of its being communicated by or from one person to another, even when occupying the same room or bed through severe cases lasting two weeks."

* Abstract of Sanitary Reports, January 3d.

* Ibid., January 17th.

BARNSTABLE COUNTY.

This county furnishes only one manufacturer's return, and that from a shoe shop at Orleans on the arm of Cape Cod. The first case occurred January 14th, the greatest prevalence was during the fourth week of January, 33% of sixty-six employees were attacked and absent from work on an average of four days. The return of the doctor at Orleans, on the other hand, reports the first case as occurring in his neighborhood on December 27th, the greatest prevalence during the first week of January, 33% of the population as affected, males the most severely affected, and pneumonia as increased.

Medical Returns. — From physicians in Barnstable County there are fifteen medical returns from eleven towns, all the way between Truro on the northeast arm of the Cape to Sandwich at the southwest border. At Truro the first case is dated January 1st, and the greatest prevalence the last week of January; from Wellfleet, ten miles away, the first case is reported November 20th, and the prevalence the third week of January; Chatham, December 22d and the second week of January; Harwich, January 1st and second week of January; Brewster about the same; West Dennis, December 20th and second week of January; but South Dennis, December 1st and first week of December. Of two reports from Hyannis, one places the first case December 10th, the other December 25th. Of four returns from Sandwich, one places the first case October 6th, two December 20th and one December 27th; one gives the first week of January as that of greatest prevalence, two the second week and one the third week; one reports 50% of the population of Sandwich as mildly affected and 12% severely, another 30%, and another 25%.

Conclusions. — The greatest percentage of affected (75%) is reported from Harwich, West Dennis and Osterville; the least percentage (10%) from South Dennis; of the two reports from Hyannis one gives 10% as affected, and the other 25%. The average of thirteen towns is 37%.

Sex. — The only point which can be fairly well established from the Barnstable medical returns is, that males were more severely affected than females, and probably — as one doctor puts it — "because they were more exposed to the weather." Ten out of fifteen report "males," two females, one is doubtful, one says no difference. From Sandwich one return says "males," one says "females," one "rather more females," and one says "no difference." So that, on this point, Sandwich remains in doubt.

Other Diseases. — Six returns from this county report pneumonia as increased, and four pulmonary diseases.

(To be continued.)

— The House Committee on Invalid Pensions has agreed to report favorably a bill which provides that all women employed by the Surgical Department of the United States as army nurses or otherwise officially recognized as such during the late war, and who served in hospitals, in camp or on the battlefield for six months or more, and who were honorably discharged, and who, from the results of such service or the infirmities of advancing age, are unable to earn their own livelihood, shall receive a pension of \$12 per month.

Original Articles.

CASES ILLUSTRATIVE OF SOME OF THE MORE UNUSUAL FORMS OF BLADDER DISEASE AMONG WOMEN.¹

BY CHARLES T. STRONG, M.D.,

Physician to Out-Patients, Massachusetts General Hospital; Assistant Surgeon, Free Hospital for Women; Assistant in Gynecology, Harvard Medical School.

THE cases to which I invite your attention by the clinical notes I shall give this evening I have selected as representing either by the unusual severity of their symptoms or the obscurity of their lesions, some of the less common types of vesical disturbances. We are familiar with the more common forms which occur as accompaniments of gynecological conditions, either as reflex or mechanical processes; of those which disappear with but little if any local treatment, I shall not speak. The tendency is to assume that, given any pathological condition of the reproductive organs, bladder symptoms must by this be accounted for. Hence too often, exploration and careful diagnosis are neglected or postponed, and a disease which might be mild in its beginning becomes an intractable, chronic affair. Nothing is simpler than an examination from the meatus to the exploration of the whole interior of the female bladder. The endoscope with electric light is valuable but not necessary. The small endoscope I show here is sufficient, with the aid of an ordinary head-mirror and lamp. Since the introduction of cocaine, ether is not necessary, but is always preferable. Simon's plugs are the most desirable form of dilators and furnish, too, an efficient instrument of aid in medicament.

The first cases I shall consider are those of hemorrhage from the bladder, not from malignant growths but from the villous formation resulting from chronic cystitis. These are not the usual forms in which the disease manifests itself. I have met with four cases in which a diagnosis of malignant disease of the bladder had been made, but which were cured without return, by the treatment employed.

The most pronounced cases were the following:

Mrs. McL., thirty-eight; married; no children. Hemorrhage from the villi of chronic hyperplasia of vesical mucous membrane. Referred to me in 1881 for palliative treatment of malignant disease of the bladder. In four years there had been steadily increasing pain about the bladder, with but little pain in micturition. The urine at times appeared slightly bloody. During the past year there had been decided deposits of a blood-stained sediment, and in the past eight months decided hemorrhages had occurred, with the passage of large clots. During the past two months hemorrhage had been so excessive as frequently to induce syncope. The patient was blanched, and certainly looked as if she had the cachexia of malignant disease. Micturition was frequent, but not extremely painful. The passage of a sound started up such decided hemorrhage that it was necessary to dilate rapidly the urethra, which was free from disease. The finger entering the bladder met everywhere soft villous formations, many of which were capped by a phosphatic deposit. These outgrowths were especially massed in the vicinity of the ureters. The sharp curette was used to remove these, leaving a clean base everywhere, and immediately stopping the hem-

orrhage. The bladder was drained and irrigated several times daily with boracic-acid solution. The convalescence was uninterrupted, and the patient still continues well.

The treatment employed here is that with which I have obtained the best results in this class of cases; and in chronic cystitis it may well be employed. The curette is quite as useful in hyperplasia inside the bladder as within the uterus, and if employed early would in not a few cases do away with the necessity of establishing permanent fistulae for drainage.

The cases in which frequent micturition is continued by a contracted bladder after cure of the original vesical disease form a series of which I wish to speak. Normally containing with ease a much larger quantity of urine than the male bladder, in consequence of lesions which especially involved the urethra, the bladder, by its reflex activity, is continually contracting, acquiring thickening of its muscular walls and assuming the shape of a firm, round ball with a very small cavity. There is but one treatment for this,—steady and progressive dilatation by frequent hyperdistension with aseptic solutions. Systematically pursued, this will certainly effect a cure, although much time may be required. An illustrative case is the following:

Mrs T., single, twenty-two, consulted me October 26, 1883. For five years she had suffered from too frequent micturition. The exciting cause, she thinks, was hyperdistension from voluntary retention. From a comparatively insignificant beginning her condition had steadily grown worse, and at this time she passed her water every twenty minutes or oftener, day and night. For two years past she had received constant local treatment, but had never been examined. She was, of course, debarred from every enjoyment, and reduced nearly to a condition of insanity from the loss of sleep and the suffering accompanying each act of micturition. The largest quantity of urine she had voided at one time for many months was less than four drachms, and this was in consequence of the rest obtained by opiates.

There was an anteflexion of the uterus, but without either it was impossible to make a vesical examination, and as the patient refused this, for a month, I made a thorough trial of diluents and internal medication, and such sedatives as were not opiates. Her condition steadily grew worse. I had her keep a record of the number of times she attempted to pass water during twenty-four hours; the intervals averaged ten minutes.

Early in December, under ether, I made a thorough examination with the endoscope. The bladder wall was clear and free from inflammation, as I had been led to expect by the character of the urine. The urethra was the seat of intense chronic inflammation. I applied over the whole surface a strong solution of nitrate of silver. For the next few days the bladder was in a state of constant tenesmus, requiring full opiates to control it; but as soon as the acute reaction from the treatment passed away, almost imperceptibly the intervals between the acts lengthened.

January 15th. She retained her urine one hour.

February 15th. For several days has retained urine two hours during the day and two and one-half at night.

Early in March she had an attack of catarrhal gastritis which greatly reduced her, and there was a re-

¹ Read before the Obstetrical Society of Boston, April 12, 1880.

lapse to intervals of thirty minutes to one hour. Just previously to this attack she had gone three hours, twice, the longest period for years; but the quantity she passed at this time was not much increased. Up to this time I had been satisfied to refrain from any interference with the urethra except by weekly or bi-weekly injection of a very weak solution of nitrate of silver. Examining again, I found there were several patches of urethritis that were not healed, and upon these the strong solution was applied; and again the interval lengthened to two hours.

There was one feature now prominent in the case that puzzled me. On one day she would pass her water every two hours; perhaps the next day she would go three hours or longer; and again the variation might be as great during different parts of the same day. Eliminating other causes, I attributed this to the amount of urine which was contained in the bladder, varying at different times, and found that when a certain limit was reached the call was imperative. I demonstrated with the syringe that when the amount of fluid in the cavity was more than three ounces then the desire to empty it was pronounced, and four ounces produced intolerable pain. As the patient was now quite strong, I began systematic dilatation by hyperdistension, and also instructed her to retain the water just as long as possible. Following out this course produced the most gratifying results. The progress was slow but steady.

In July she could with very little discomfort, retain the urine an hour after she first felt the desire, and after having been one year under treatment, she could attend to all her duties, social and domestic, free from any disturbance from her bladder. She usually rose once during the night, but not always; and during the day the intervals were no more frequent than normal. There has been no relapse.

The treatment of this case is that which I have found most uniformly successful in inflammatory lesions of the urethra. It is the application of a strong, almost caustic, solution of nitrate of silver through the speculum directly upon the seat of the disease.

CASE III. Retention of urine as a neurotic manifestation, with cystitis and subsequent malignant disease of the vulva, surrounding and including meatus.

Mrs. C., age thirty-seven, May 11, 1887, was referred to me, with the history that three weeks previously (April 18th) there was stoppage of urine, accompanied by bearing-down pains. This had never before occurred. The urine was drawn, but stoppage occurred again the next day. In short, the catheter had been required seven or eight times during the three weeks. Upon all other occasions the act had been perfectly normal. The closest questioning failed in eliciting any reason why the urine should pass at one time and stop at another. There was never any pain. The time of day or night, the condition, exercise or rest, none of these were disturbing factors. Once started, the stream always continued until the bladder was empty; but unless it started freely and immediately, neither straining or any of the usual aids, such as using water, etc., were of any avail. The only symptom the patient felt was "a kind of clicking feeling," and then the stream would not come. There was no uterine lesion.

It was difficult not to attribute the condition to some material obstruction as the patient was apparently as free from nerves as any woman one could meet,—a

large, strong woman in the best of physical health. Since her catheterization the urine, she noticed, had become cloudy, and I found it full of pus. Evidently she now had cystitis, but improved decidedly with proper treatment. I could find no local lesion whatever by most careful endoscopic examination. There was no retention and no treatment for the next five weeks. Then, in consequence of living some days in the midst of fresh paint, as she thought, she had stranguary and retention. Again a month's freedom and one day's retention. Without ether I dilated until I could easily pass my finger into the bladder, which I explored thoroughly with curette, forceps and finger, but with former results. Following this, there was an interval of four months of freedom; then the catheter was once required; then two months' rest again. This brought the time to January, 1888. In examining, now for the first time, I thought there was some spasm at the neck of the bladder, so, January 18th, under ether, a most thorough dilatation was made, and the bladder and urethra explored in every way, but with entirely negative results. However, the patient was greatly relieved, and nothing more was heard of stoppage until January 18, 1889, just one year to a day from the last decided operation; then occurred retention. So matters went along through the summer. Occasionally, following a day of overfatigue or some severe mental strain, the urine would have to be drawn. There was no regularity.

The patient occasionally wrote to me; but having made up my mind that the trouble arose from some neurotic condition and would continue as long as the cause, I refused to do anything more; but in November, she appeared, stating that for a week past she had not been able to pass any urine, except it were drawn. Although the condition of the urethra and bladder still seemed normal, I noticed on each side of the meatus, and extending in a less marked degree above and below it, a hyperplasia of the vulva tissue, which seemed quite indurated at the base. This increased rapidly, and was extending up the under surface of the urethra into the vagina. A piece submitted to Dr. Whitney was reported upon as follows:

BOSTON, January 2, 1890.

DEAR DOCTOR:—I have examined the specimen from the meatus received from you from the Free Hospital. It is composed of a connective tissue base, covered by thickened and irregular masses of epithelial cells. In general, the growth has the aspect of a papilloma, but in one place the cells have a tendency to dip into the tissues of the base. I am suspicious that it will recur.

Yours truly, W. F. WHITNEY.

I operated upon this thoroughly, removing all the diseased tissue. During convalescence retention occurred once, but ceased as soon as the dressing of iodoform was omitted.

I last saw the patient about a fortnight ago, and she reports that, at irregular intervals, the catheter has been necessary. I have given her a full-sized No. 30 bougie to use with regularity, hoping in time to overcome the trouble with the sphincter.

The nature of the case in one way is plain to me, that is, that many of the occasions when resort to the catheter has been necessary, are hysterical in their origin. But why the first retention in a woman whose mind, so far as can be told, has never been directed towards her bladder? There has been no attempt to win sympathy. The more I treat her the more last-

ing the relief; and yet neither I nor the gentlemen who have seen her with me have been able to find, either in the urethra, bladder or reproductive organs, any condition that would suggest a mechanical or reflex cause.

The occurrence of the malignant disease I regard as a coincidence merely. It is in this situation, an extremely serious condition, I have seen two, possibly three, similarly situated; and these have been more ulcerative in their character than this. Although I cut and burned thoroughly, yet I cannot but feel there is the strongest liability to return of the disease.

I have regarded the development of malignant disease as a coincidence merely, but I am reminded by it of the development of a similar condition about an artificial vesico-vaginal fistula in a patient whom I had the opportunity of seeing with Dr. Forster. This raises the question in my mind as to how far the repeated dilatation might have been responsible for it.

CASE IV. The tendency to the formation of villous growths in chronic cystitis is rare, but even less common is it to meet with this condition in the urethra. I have seen it in but a single case, and in this associated with distinct fissure at the neck of the bladder and caruncle at the meatus. The cause of the trouble here was evidently mechanical, the cervix of a retroverted and immovable uterus being crowded hard against the urethra.

Mrs. W., age thirty-nine, consulted me first in June, 1887, for relief from constantly increasing frequency of micturition, accompanied by pain, tenesmus and bloody urine. The pain was of cutting character, and extended up both sides of the pelvis to the back. When it was possible to pass the water in a standing position the pain was diminished. Under no circumstances could the urine be retained if the inclination to pass it had been felt, and two hours was the maximum interval between the acts for several months past. The symptoms dated back about two years, but then the onset had been gradual. The urine was quite clear, except for the presence of some free blood. The patient had been told that all her troubles were due to the caruncle; but as this had been removed several times without relief, there was evidently some further lesion.

Under ether, by the endoscope the urethra was seen to be covered with varicose and dilated blood-vessels in villous outgrowths from the meatus to its junction near the bladder. They stopped abruptly here, but there was a deep fissure at the vesical neck upon the lower side. The urethra was thoroughly dilated, its surface scoured and scraped, and painted with a strong solution of argentic nitrate. The walls of the bladder were hypertrophied, and the cavity would contain about three ounces. This treatment was followed by the bi-weekly injection of a weak solution of nitrate of silver and suppositories; but the latter, as in most of the cases that I have seen, appeared rather to increase the patient's discomfort, and their use was abandoned.

At the same time, I attempted replacement of the uterus, but this was too irritating, and except the employment of a single glycerine tampon placed so as to relieve the urethra as much as possible from pressure of the cervix, was abandoned. The patient steadily gained, except in the frequency of micturition which I attributed to the same cause largely as in Case II, namely, a contracted bladder. Systematically dilating it by hyperdistension, I had the satisfaction of over-

coming this condition, and in September the patient was so well that she ceased attendance against advice, as I felt sure the cervix would again set up trouble.

In January, 1888, the danger-signal of the cutting pain on micturition forced the patient to come again for treatment. I found two patches, each about the size of a split pea, midway of the urethra, showing the characteristics of a subacute urethritis. With cocaine as an anesthetic these were quickly dissipated; and at the same time, by packing with great care, I was able to lift the uterus enough to free it from the pressure of the cervix. Since that date the patient has been perfectly well except for the slight local irritation of the caruncle, which has recurred twice. Should it again appear, I shall make a thorough dissection to remove entirely its base.

It was interesting here to follow the gradual and steady improvement that accompanied the treatment. Few, if any, classes of cases are more exhausting to the nervous strength of the patients than these of vesical disturbance, and the reaction of the local and nervous conditions upon each other are most unhealthy.

This case is one in which drainage through a vesico-vaginal or urethro-vaginal fistula would have been resorted to, I think, by many operators; but as it was possible to give the patient all the necessary attention, it seemed to me the more conservative course was the better. Despite all that may be said in their favor, fistulae put patients in uncomfortable relations to themselves and their surroundings; and one should, I feel, hesitate, and try many conservative lines of treatment before subjecting a patient to their annoyances and discomforts.

THE INFLUENZA EPIDEMIC AS OBSERVED AT THE BOSTON LYING-IN HOSPITAL.¹

BY CHARLES M. GREEN, M.D.

THE cases of influenza observed at the Boston Lying-in Hospital during the late epidemic were neither numerous nor severe. But no unusual complication of the puerperal state is devoid of interest, and it has therefore seemed worth while to examine the clinical history of these cases with a view to the lessons which they may teach.

The first seizure of the epidemic was observed December 24, 1889; the last, January 22, 1890. During this period of about a month there were fifty-two women in the hospital, and among this number there were seven cases of *la grippe*, or 13.4%, — a small proportion probably compared with that obtaining in the community at large.

CASE I. Normal primiparous labor, December 20, 1889. Convalescence normal until the morning of the fourth day, when the temperature was 99° F., and the patient did not feel well. Evening temperature 102°, pulse 90; complaint of pains all over, with fulness of the head and some coryza, but no sore throat and no cough. Lochia abundant and sweet; no tenderness over the uterus. Early next morning patient had a chill, and temperature rose to 102.4°, but later dropped to 100.4°; evening temperature 101°, pulse 106. After the chill patient was given quinine sulph. gr. x; but she received no other treatment except occasional mild aperients or enemas. The temperature fell gradually, was normal on the

¹ Read before the Obstetrical Society of Boston, April 12, 1890.

morning of the ninth day, and the patient left the hospital well five days later.

CASE II. Normal multiparous labor, December 26, 1889. Convalescence normal until the evening of the fifth day, when the patient had a well-marked chill, the temperature rising from 99° to 102.4° , and the pulse from 70 to 112: the right breast was somewhat tense and painful and there was some cough. Next morning the temperature was 99° , pulse 72; but in the forenoon there was another chill with pulse and temperature 84 and 100.4° respectively. There were no symptoms pointing to any trouble about the uterus, nor was the tense breast considered sufficient to account for the chills. That evening the pulse was 116, and the temperature rose to 104° : ten grains of antipyrine were then given, and the next morning the pulse had fallen to 88 and the temperature to 99.8° : the next day pulse and temperature were normal, and there was no further disturbance. On the twelfth day, however, when the mother was convalescent, the baby was seized with coryza, conjunctivitis and bronchitis and presented a perfect picture of the catarrhal form of the epidemic. This was the only case observed among the infants in the hospital.

CASE III. Normal primiparous labor, December 27, 1889. The first stage was tedious, and the patient was rather exhausted, as may be inferred from the pulse and temperature, which did not fall to normal till the morning of the third day from the beginning of labor. On the morning of the fifth day of the convalescence the temperature was 99° ; in the evening it was 101.4° , and there was complaint of headache and backache: lochia normal. In three days these symptoms had disappeared and the temperature was normal.

CASE IV. A normal primiparous labor, December 22, 1889, and an uneventful convalescence, except from toothache, until the fourteenth day, when the morning temperature was 102.8° and pulse 100. Later in the morning, there was a chill and the temperature rose to 104° , the patient complaining of pains in the head and back. She was given ten grains of antipyrine, kept in bed, and in two days pulse and temperature were normal.

CASE V. Normal primiparous labor and normal convalescence until the sixth day when the patient did not feel well, although the temperature and pulse were normal. Two days later the breasts were cakey and were rubbed with camphorated oil. Next evening the patient had a chill and the temperature rose to 103.4° ; there was headache. Next morning the temperature was normal and there was no further disturbance. This may not have been a case of gripe, but it had that appearance; and it did not seem that the subsiding tension of the breasts could have caused the symptoms.

CASE VI. Easy primiparous labor, January 9, 1890. On the fourth day there was some headache; temperature normal; but on the sixth day the temperature rose to 103° in the afternoon, after quite a severe chill. There was some pain in the thighs, but no catarrhal symptoms and no evidence of sepsis. On the following day the morning and evening temperatures were 99.5° and 102° . A macular eruption with an occasional pustule appeared on the left breast. Next morning the eruption was more extensive, invading the axilla and passing around on the back. Morning and evening temperatures 100.8° and 100.4° .

Next day the temperature was normal, and two days later the eruption was disappearing.

CASE VII. Rapid, easy primiparous labor, January 10, 1890. Convalescence normal until the evening of the fifth day when the temperature rose to 100.6° , with no other symptoms. Next morning a slight macular eruption with an occasional pustule appeared on the right breast, the appearances being similar to those reported in Case VI. In two days the temperature was normal. In this case the elevation of temperature was not marked and the constitutional disturbance not very marked; but the eruption and rise of temperature resembled that observed in Case VI who occupied the next bed but one in the same ward, and the case was thought to be a mild seizure of *la grippe*.

Of these seven cases it may be said that the symptoms were mild for the most part: in five cases there were one or more chills and decided elevation of pulse and temperature. In two cases there was a macular and pustular eruption: in general the symptoms were headache and backache, malaise with coryza and cough; but the catarrhal symptoms were mild, except in the case of the baby previously reported. In no case was either nausea, vomiting or diarrhoea observed.

No patient entered the hospital while suffering with influenza, so that no opportunity occurred to observe what effect, if any, the disease might have on the progress of labor. Neither was there any instance of premature labor induced by the epidemic influenza. There were several cases, however, who entered while convalescent from the gripe, whose labor and puerperium gave evidence of preceding prostration.

The most serious feature of the epidemic, from the physician's point of view, was the apprehension occasioned by chills and sudden elevations of temperature. In puerperal convalescence such phenomena cannot fail to excite alarm until the diagnosis is clear as to whether the cause is a transient and unimportant one, or whether it is to be attributed to septic absorption. In each case, therefore, great care was exercised to accurately explain the changes in temperature before reaching a diagnosis.

Such being the history of the epidemic among the patients, let us briefly examine the experience of the other members of the household. The regular complement of attendants embraces six day, and three night, nurses; but during the epidemic there was one vacancy among the nurses, and numerous substitutes were employed as occasion required. Of the eight regular nurses four succumbed to the epidemic; and one night nurse was sick enough to have done so, but pluckily attended to her duties. Accurate histories were not kept of the nurses' sicknesses; but they were all sicker than any of the patients, with perhaps one exception. One nurse had an evening temperature of 105° , was delirious during the night, and required the attendance of a special nurse: there was backache and great prostration; but the temperature gradually dropped and she was on duty in two days. Another nurse suffered with cough, tonsillitis and prostration for three or four days, with a temperature of 101° and 102° . Another had an evening temperature of 103° , and was so prostrated by the attack that, although out of bed in two days, she was obliged to rest for a week before returning to duty.

The Matron and the Director of Nurses also suc-

cumbered to the epidemic and were unfit for duty for two or three days. Two serving women were also seized, suffering like the others with high temperature, pains in the back and head and great general prostration.

It is interesting to notice the contrast between nurses and patients suffering with the epidemic, in respect to the severity of their symptoms,—the latter suffering much less severely than the former. This was obviously due to the fact that while the nurse was actively at work and frequently overworked, the patient was quiet in bed, in favorable surroundings, and on a more or less restricted diet. It is reasonable to suppose that had the patients been in their own less hygienic homes, subjected to the mental annoyances and disturbances of family life in average tenement-houses, and without trained nursing they would have suffered much more severely. Indeed, one of the out-patients, who had a long, difficult labor, terminated with forceps, was seized with *la grippe* on the sixth day and was very much sicker than any patient in the hospital. Her evening temperature was 104°, pulse 112, there was coryza, and severe general pains, even in the fingers. The evening temperature next day was 104.8°, and the following morning it had risen to 105.2; but from this point the fever declined and the patient made a gradual, but slow, recovery.

CASES OF CYSTITIS TREATED WITH SALOL.¹

BY S. L. ABBOT, M.D.

CASE I. On entering on my service at the Massachusetts General Hospital, March 1, 1888, I found in my female ward a patient who had been admitted on the 12th of February, suffering with severe uterine symptoms and pelvic cellulitis. On the 13th her urine had been drawn by a catheter for examination and was found to be normal in appearance, acid, of specific gravity 1.020, containing no albumen, depositing a slight sediment.

The patient's general condition was bad. She was much emaciated, had severe night sweats, and the pelvic symptoms were severe with high temperature up to the 22d, when there was some mitigation of them, but micturition was frequent and painful. At this time the urine was pale, alkaline, of specific gravity, 1.014, and contained a small trace of albumen, a little blood and much sediment of pus and mucus, with triple phosphates.

March 1st. Urine strongly ammoniacal, alkaline, otherwise about as on February 22d.

Palliative remedies had given considerable relief, such as washing out the bladder with borax water, and rectal suppositories of morphia,—and acid, nitro-muriatic m. xv had been given three times daily. On this day these remedies were omitted with the exception of washing out the bladder. Five grains of chlorate of potash were prescribed to be taken every two hours.

March 2d. After the administration of eight doses of the chlorate, the urine was of normal color and odor, acid, of specific gravity, 1.018. It contained a slight trace of albumen, and there was some sediment consisting of a small amount of mucus and pus, a little normal blood, and fine and coarse granular and hyaline casts. The patient complained of pain in the lower

left front chest, and some dry friction sounds were heard at this spot. The chlorate of potash was omitted.

March 4th. The urine was again alkaline and in other respects as before the use of the chlorate. This, with the bladder washing, was resumed, as the chest symptoms had subsided, and an iron tonic was also prescribed.

There was a gradual increase of strength and on the 12th the record shows that the patient sat up five or six hours.

On the 16th, the urine was reported as unchanged, the purulent deposit being one-third of the whole bulk.

March 17th. The patient had been up all the day before and was now complaining of moderate rheumatic pain in the left shoulder and right side. Examination of the chest gave a negative result. All the remedies were omitted, and salol gr. x was directed to be given three times daily.

March 18th. Rheumatic pain relieved, and the urine has undergone a great change being acid for the first time in two weeks, pale, of specific gravity, 1.018; containing a small trace of albumen and a greatly reduced sediment. The treatment was continued until the 24th when the urine was still acid and contained very little sediment. Salol omitted.

March 25th. Urine alkaline again. As the patient's condition now admitted of a more powerful salicylic remedy, salicylic acid gr. v was prescribed, to be taken every three hours.

On the 28th the patient was discharged well. She has been seen frequently since leaving the hospital, by my assistant Dr. Greene, and she continues well.

CASE II. Mrs. —, a young married lady, called on me in the spring of 1888, complaining of symptoms which she regarded as uterine, from which she had been suffering for some days. On inquiry I learned that her most urgent symptom was very frequent micturition ("every five minutes" as she expressed it), a very small quantity of urine being passed at a time, greatly disturbing her sleep at night. The trouble was increasing and she asked for a uterine examination to determine the cause, supposing that there must be some displacement of the womb. I learned that sexual intercourse had occurred but twice during the month since marriage, without special suffering.

On making an examination the sphincter vaginae was found to be spasmodically contracted and very tender to the touch, requiring some force to pass the finger beyond it. This having been accomplished, the uterus was found high up in perfectly normal position and condition, neither was there any vaginal tenderness above the os tunc except on the anterior surface where firm pressure towards the bladder caused much pain. There was and had been no vaginal discharge, and the symptoms were clearly referable to the bladder. She could suggest no possible explanation of them. The urine at this time was strongly acid. Palliatives, such as the introduction of a few drops of four per cent. solution of cocaine within the vagina, alkalies, morphine suppositories in the rectum and hot hip baths gave some relief, the urine being alkaline on the following morning.

On the next day the patient complained of loss of appetite, the tongue was furred, and there had been a chilly turn the day before followed by profuse sweating; she had had intermittent fever in 1884. The urine was acid, specific gravity, 1.012, without appre-

¹ Read before the Obstetrical Society of Boston, April 12, 1890.

ciable albumen, contained abundant crystals of triple phosphate and muco-pus in large amount, constituting from a quarter to a third of the whole volume on standing.

Two grains of sulphate of quinine were prescribed to be taken before each meal, and the other remedies were continued.

On the next day, as there had been no recurrence of chills or sweating and the bladder symptoms were about the same, all remedies employed were omitted except the hip bath, and five grains of salol was prescribed to be taken every three hours.

On the next day the patient reported very great relief, being able to retain the urine one hour at a time and micturition was much less painful. Urine acid, specific gravity, 1.014, still containing considerable muco-pus and bladder epithelium. From this time the symptoms rapidly improved, and the patient reported herself well on the sixth day after commencing the salol treatment.

CASE III. A widow lady past middle life, was taken in the middle of November, after getting chilled by standing some time in the street exposed to a high wind, with a severe attack of catarrh of the bladder. Painful micturition was very frequent by day and night. At first she was treated with alkalies and rectal suppositories of morphia which gave some relief. During the second week salol was prescribed in the dose of five grains to be taken three times daily and the alkali was omitted. On the third day the salol was directed to be taken four times daily, and bicarbonate of soda in addition if needed.

At the end of the week the urine was nearly natural and the micturition was painless, occurring but twice during the night and three or four times only during the day. In ten days after the treatment was commenced the patient was entirely well. Three days before the conclusion of the case, an iron tonic was prescribed, as a slight attack of diarrhea for one day had caused considerable weakness.

This patient was very much impressed with the efficacy of the salol treatment, as a few years before she had had a similar attack much less severe in character, under the care of an intelligent physician, during which she was confined to her bed for six weeks and required the constant attendance of a trained nurse; while in the present instance she was able to lie on a couch during the last few days of her illness, and the care of her family servants was all that she needed.

CASE OF EPITHELIAL CANCER IN A NEGRESS.¹

BY EDWARD JACOB FORSTER, M.D.,
Visiting Physician, Boston City Hospital.

My attention having recently been called to the rarity of carcinoma in negroes, I am lead to report a case which recently came to my service at the City Hospital.

From the hospital records I condense the following history: Mary C., a full-blooded negress, twenty-seven years old, born in Virginia, entered the hospital February 4, 1890, for treatment for "falling of the womb." Family history negative. Had chills and fever when nine years old; "inflammation of bowels," probably attacks of cellulitis, several times.

¹ Read before the Obstetrical Society of Boston, April 12, 1890.

the last three years ago. Menstruation regular, but profuse; complains then only of dull pain in front passage. Has leucorrhœa. One child several years ago. No miscarriages. Denies intercourse for three years. No pain on micturition. Bowels constipated. General health good; is well-developed and nourished; would be called fat.

Examination showed marked cystocele. Uterus in second degree of prolapse. Sound passes four and one-half inches. Bilateral tear of cervix without marked eversion of lips, a spot about the size of a silver quarter of a dollar on the left side of posterior lip encroaching upon the angle of the tear and extending towards the cervical canal from which the mucous membrane is absent; very slightly excavated, and at the sides extending slightly under the mucous membrane. The appearance was unlike any epithelial growth I have ever encountered in this or any locality, and gave one the impression at first view that it might possibly be a syphilitic lesion.

A piece the size of a ten-cent coin was excised, and sent to Dr. H. F. Sears, who returned the following report: "Microscope shows masses and threads of epithelial cells in connective tissue throughout specimen — epidermoid cancer."

On February 19th patient was etherized, and with the assistance of Dr. Haven, I amputated the cervix. First splitting the cervix on both sides of the vaginal junction, a large wedge-shaped piece was removed from each lip, the mucous membrane of the canal was stitched by a single silk suture on either side to the outside of the cervix, and the remaining portions of the lips united by ten silver sutures. An elastic ligature controlled all hemorrhage. The operation lasted one hour and ten minutes. Patient recovered well from ether. Antiseptic washes and pad used p. r. n. Catheter every six hours. . . .

March 2d. Stitches all removed. Parts firmly united. Uterus found in normal position. After recovery from the customary weakness attendant upon a fortnight's stay in bed, the patient was discharged at her own request on the 13th, and advised to visit occasionally the out-patient department. This advice I am told she has followed; and Dr. Green or Dr. Haven can perhaps tell us of her present condition.

While most all writers recognize and dwell upon the extreme frequency with which uterine fibroids are found in negroes, after a careful search, very little can be found written in regard to the frequency with which carcinoma affects them. That little is nearly if not quite all contained in a paper by Dr. Louis McLane Tiffany in Volume V of the "Transactions of the American Surgical Association" (1887), entitled "Comparison between the Surgical Diseases of the White and Colored Races." He says: "Of malignant growths, the ones most common are the sarcomata, and these are usually in relation with the skeleton. . . . Carcinoma is very rare in the negro"; and that during thirty-four months in the out-patient department of a general hospital where 4,930 cases were treated, 34% of which were colored, no case is recorded of epithelioma of the face or lip of a negro. In his own practice, he can only call to mind one instance of epithelioma of the tongue in a negro.

In the discussion which followed the reading of Dr. Tiffany's paper, Dr. E. H. Gregory, of St. Louis, stated that he had never seen cancer of the lower lip

in a negro. Dr. W. T. Briggs, of Nashville, Tenn., said he thought cancerous affections were not so common as in the white race.

If we can judge by the omission to mention the uterus as a seat of carcinoma by these gentlemen who practice where there is a large colored population and the meagreness of the literature of the subject, the situation in the case just reported is certainly exceptional.

Professor Baker, who first called my attention to this subject, I think, said he had not met with a case.

Dr. C. M. Green who examined this case with me, remembers having seen but one other.

Dr. D. W. Cheever told me yesterday that he could not recall having met with a case of uterine cancer in a negress.

Dr. H. H. A. Beach in a note writes me: "In my own operating, I do not recall but two cases of epithelial disease among negroes, one of the lip and one of the labia majora, the former was a male subject."

The rarity of cases like the ones reported is, I trust, sufficiently shown to excuse me for having taken your time by giving the details of one which when occurring in women of our own race, we are unfortunately only too familiar.

Reports of Societies.

THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MEETING April 12, 1890.

DR. STRONG reported

CASES ILLUSTRATIVE OF SOME OF THE MORE UNUSUAL FORMS OF BLADDER DISEASE AMONG WOMEN.¹

DR. DAVENPORT said that in many mild cases of urethral irritation the passage of a steel sound gave the same satisfactory result as with similar treatment in cases of mild urethritis in the male. He had never seen the villous condition spoken of by Dr. Strong. He mentioned a case where there was a vesical polypus hanging by a delicate pedicle.

DR. ABBOT said that he was prompted by Dr. Strong's report of his cases to speak of several cases of cystitis which he had successfully treated with salol.²

Dr. Abbot also said that he had recently tested the power of salol in a case of severe acute gonorrhœa in a man, in which the dose of five grains was prescribed to be taken every two hours. The treatment was begun at the end of the second week of the attack. At the end of the third day the patient himself reduced the dose to two and a half grains every two hours, on account of the relief he had experienced, and at the end of five days of the use of this remedy the discharge was reduced to a small drop with almost complete relief from the scalding micturition.

Dr. Abbot referred to the rapid elimination of this antiseptic by the kidneys, and mentioned an instance within his personal knowledge, in which a medical friend had taken a dose as an experiment, and detected its presence in his urine by a chemical test fifteen minutes after.

DR. MINOT was reminded by one of Dr. Strong's cases of a patient, thirty-five years old, unmarried, who

was always well till May 24, 1889, when she found she was unable to pass water. At the end of eighteen hours Dr. Minot catheterized her, and then found a large fibroid tumor of the uterus, which did not, however, press on the urethra, and he was puzzled to account for the retention. The patient had remained well till yesterday, when it was again necessary to draw off the urine. The tumor had increased considerably, but still formed no obstacle to the introduction of the catheter. He supposed that the retention was a reflex phenomenon, but had never before met with such a symptom in cases of uterine fibroids.

DR. RICHARDSON said that he had seen one similar case in a cook where four or five attacks of retention had occurred.

DR. ABBOT had twice been called to cases of sudden inability to pass urine and found a fibroid of the uterus.

DR. CHADWICK said that he was becoming more and more convinced that most cases of bladder trouble yield to general treatment, and that very few require local treatment. An examination is, however, essential in all cases. Caruncle, he thought, existed in a large number of cases without producing symptoms, hence its removal is not likely to give relief where there are symptoms of bladder irritability. There is no more common cause of frequent micturition than retroversion of the uterus, although it is doubtful how it acts.

A recent case he had treated for cystitis when he found the cause to be stone in the bladder, the symptoms were very non-suggestive.

DR. BLAKE thought that the symptom of sudden retention of urine in patients with uterine fibroid may not be so very uncommon, as he had taken care of two such cases, both patients being cooks, and he wondered whether the occupation had anything to do with it. In one of these cases it was necessary to pass a male catheter eight or ten inches before reaching the bladder.

DR. STRONG in closing said that he agreed with Dr. Chadwick that very few cases require local treatment, but that an examination was in all cases necessary. Caruncles he found to be very common in the outpatient department of the Massachusetts General Hospital, occurring in perhaps one out of five patients. The small caruncles just inside the meatus are the ones that give trouble, the large external ones generally give rise to no symptoms.

DR. BLAKE mentioned a case of excessive irritability of the bladder which has lasted for two years, reducing the patient very much. The cause in this case was a urethral caruncle.

DR. GREEN read a paper entitled

THE INFLUENZA EPIDEMIC AS OBSERVED AT THE BOSTON LYING-IN HOSPITAL.³

The reader asked whether any of the members had seen labor brought on by an attack of influenza.

DR. C. E. STEDMAN said he had a patient in the eighth month of pregnancy who had a severe attack of influenza, but it did not bring on labor.

DR. STRONG had a patient who had influenza and miscarried at seven and a half months.

DR. GREEN had a patient with influenza one week before confinement which occurred at the expected time.

DR. EDW. REYNOLDS spoke of cases supposed to be in labor, where it was found that the influenza was the

¹ See page 53 of the Journal.

² See page 57 of the Journal.

³ See page 55 of the Journal.

cause of the pain. One of his cases developed influenza the day after confinement. The baby four or five days later began to cough and have diarrhea, dying in the course of a week. In another case the patient was taken with influenza the day before confinement, and the baby had diarrhea beginning on the second day.

DR. TOWNSEND said that one of his patients had influenza a week before she was confined, and the baby was born with symptoms which lead him to think it had congenital influenza. He would report this case at some future time.

DR. RICHARDSON said that one of his patients had an attack of the gripe at the seventh month of pregnancy and was afterwards confined at the proper time. Another case had a moderate attack of the disease at the seventh and a half month of pregnancy and miscarried on the third day. The infant was feeble, had snuffles and died in three days.

DR. FORSTER reported

A CASE OF EPITHELIAL CANCER IN A NEGRESS.*

DR. STRONG had seen two cases of cancer in colored women in the last month.

DR. EDW. REYNOLDS had met with three such cases.

DR. GREEN showed a photograph of a placenta in a case of triplets. Also a photograph of a man who was born with but the stumps of all four extremities.

AMERICAN NEUROLOGICAL ASSOCIATION.¹

TRAUMATIC NEURO-PSYCHOSES.

DR. G. L. WALTON read a contribution to this subject, in which he dealt exhaustively with the questions of pathology and prognosis in injuries inflicted upon the nervous system by railway collisions and similar accidents. From the influence of Erichsen's views, functional and organic injuries were, for a long time, indiscriminately classed together under the ambiguous and misleading term, spinal concussion, while a common prognosis was given to all, leaving the student in doubt as to whether the worst or best results might be anticipated. To H. W. Page was due the credit of having elaborately corrected this inaccuracy and of sifting out the comparatively rare cases of organic spinal disease, whose sad course and prognosis had been so long allowed to overshadow and include the more common cases in which no demonstrable lesion existed. To the latter class, he had first applied the term traumatic neurasthenia. Dr. Putnam, in 1883, after reporting several cases of traumatic hemianesthesia, had called attention to the importance of looking for evidences of typical hysteria in the chronic as well as in the acute stages of so-called spinal concussion. Among those who had early inclined toward the modified views regarding the effects of trauma on the nervous system, might be mentioned Dr. Dana, who, writing in 1883, had very appropriately added hypochondria to the two terms already applied. Spitzka had considered that spinal concussion could produce spinal irritation. These theories were in direct opposition to the idea advanced by Westphal, that a diffuse sclerosis was set up by the jar. This

view had many followers, both in Germany and America. In a recent work by Chreuger, of Chicago, it was proposed to give to these cases the name "Erichsen's disease." This writer had regarded the spinal sympathetic system as the starting point of the pathological process. Seguin, in "Sajous' Annual" of 1889, considered organic injury to the nervous system a rarity as resulting from the forms of trauma under consideration. Without exhausting the literature of the subject, it might fairly be concluded that there was at present a very general, though not unanimous, tendency to abandon the theory of spinal concussion, and to regard the majority of the genuine cases as identical with already recognized functional forms of disease, rather than cases of organic spinal injury. Dr. Walton's experience had led him from the first to regard disease of the spinal cord resulting from trauma as of comparative rarity, when no dislocation or fracture had occurred, while Seguin's conclusion regarding the preponderance of the subjective symptoms, and the degree in which we were generally dependent on the patients, were fully justified by the majority of the cases which had come under the writer's observation.

The PRESIDENT regretted that the two works dealing with this subject were open to the stigma of having been written for trade purposes. It was important in discussing the question to avoid anything but its clinical aspect.

DR. P. C. KNAPP could not agree with the author of the paper in the position he had taken. Page had deliberately ignored most important neurological points. The theory of Charcot that many of these cases were hysterical was pretty well exploded.

DR. F. F. PUTMAN thought there were but few persons who could carry out successfully a system of deception during a long and searching examination, much less through two such investigations.

DR. F. X. DERCCUM said that in his opinion there was a union of two factors. In some cases there existed actual cause for painful back. It was remarkable how the same story would be repeated unsolicited. It required a person well-trained in the subject to relate such symptoms. Then there would be diminution of the heart-beat, great awkwardness of movement, marked disorders of sensation, errors in locating points of contact, and many other mistakes which a healthy man could not make. Many of these symptoms were such as the patients could hardly pick out for themselves. It was immaterial whether the initial trouble was actual organic disease, or profound functional disturbance, the fact remained that these people did not recover.

DR. W. R. BIRDSALL agreed that it was the most conservative view to say that there was possibly a traumatic lesion in a certain number of these cases, still he thought the great majority showed functional phases. The chief element in the production of these conditions, even if there existed organic changes in addition to the functional disturbance, was emotion, and psychic shock.

DR. D. INGLIS did not agree with the author of the paper. The profession had to take one position or the other in deciding whether these cases were organic or functional, and then a jury might do as it thought fit. He also proposed a method for testing hyper-sensitive areas.

DR. C. K. MILLS thought there were at least three

¹ Report of the Sixteenth Annual Meeting, held at Philadelphia, June 4-6, 1890. Continued from page 42 of the Journal.

* See page 68 of the Journal.

classes of cases resulting from injury: (1) pure fright; (2) cases in which the indications were clear that fracture or haemorrhage or other serious lesion had taken place; (3) cases in which the symptoms presented were both objective and subjective, with a preponderance of the latter. He thought that the existence of some organic lesion, whether myelitis, or the result of hemorrhagic pressure upon some delicate part of the nervous system, would explain many of the symptoms peculiar to this class.

A CASE OF COMPLETE PARAPLEGIA CURED BY TREPHINING.

DR. F. X. DERCUM presented a patient upon whom trephining of the upper dorsal vertebral arches, for paraplegia and complete paralysis of the sphincters, had been performed, resulting in complete recovery.

The PRESIDENT in commenting on this unique case characterized it as almost unprecedented.

DR. PUTMAN said the case seemed to be one of unusual interest, and thought that they must all welcome such advance in the surgery of this region. The speaker had reported several cases, in which he thought exploratory operation might have been done with benefit.

DR. V. P. GIBNEY said he was extremely delighted with the brilliant results in this case. From the way the patient now held his head, he should be inclined to look upon the case as an old Pott's disease. Surgeons had been chary of operating in these cases, though the operation was comparatively an easy one, at least, simple in detail, and with the aseptic and antiseptic methods of to-day, it was practically impossible to have bad results, and recovery was to be expected.

The PRESIDENT said they would be glad to know to what extent the present position of the head corresponded with the position before the operation.

DR. DERCUM said the position was at that time normal. He considered the present inclination of the head forward as due to loss of certain attachments of the trapezius muscles at their points of insertion into the spinous processes. There might have been a rheumatic element in this case affecting the meninges of the cord.

The PRESIDENT said he would like to ask Dr. Gibney as to the deformity in which there was extreme bending forward of the neck.

DR. GIBNEY said this condition sometimes obtained to an indefinite extent. It might be a senile kyphosis. Though it would perhaps be urged that Pott's disease at such an age was impossible, yet as a matter of fact there were quite a number in whom it developed after fifty or sixty, following a fall or injury. The position of this man's head might be due to loss of substance of the bodies of the vertebrae.

DR. W. N. BULLARD thought the rapid advance in spinal surgery should lead to more definite conclusions as to the cases of Pott's disease suitable for operation.

DR. B. SACHS said he was gratified to hear the report of such a case as Dr. Dercum had presented. It went to show that many of the cases hitherto operated upon had been badly chosen. When cases could be selected, statistics would probably be more encouraging and favorable.

The PRESIDENT thought that the theory of rheumatism in this case could not be entirely disposed of.

DR. C. L. DANA said he did not share the optimistic view which Dr. Putman had advanced, and should be sorry to start a boom in spinal surgery. If the history of all the operations already performed in this field was known, he thought they would be disposed to follow the conservative suggestions of Dr. Sachs, and would deal only with selected cases.

DR. GIBNEY said that he did not by any means desire to start a boom in spinal surgery. What he had meant by an easy operation was, that in these old cases of Pott's disease the spinous processes were very prominent, and the soft parts were thin and readily got at. Cases should always be very carefully selected.

DR. DERCUM thought that the proper cases were difficult of selection, and it was only now and then that success could be hoped for. He regarded the results in his case as fortuitous.

A CASE OF LOCOMOTOR ATAXIA ASSOCIATED WITH NUCLEAR CRANIAL NERVE PALSY, AND WITH MUSCULAR ATROPHIES.

DR. FREDERICK PETERSON reported the history of the above-named case. The patient had been under the writer's observation since March, 1890, but the features of the case had been previously described, by Dr. Seguin, in the *Journal of Nervous and Mental Disease* for May, 1888. It was the first of five cases of ophthalmoplegia reported by that author. As there had been so many new developments in the patient's condition during the past four years, that it was thought best to briefly outline the history from the first observations made up to the time when he came under the writer's notice. M. J. T., now thirty-seven years of age, had had a chance and secondary symptom fifteen years ago. In 1882, he had discovered one morning dimness of vision and external strabismus of the left eye, with diplopia. A little later he had shooting pains in the legs, occasionally in the arms. In 1883, he had a momentary loss of consciousness, and fell, cutting his head. His left testicle also became swollen and hard during this year, and he was under specific treatment at Hot Springs for some time. In 1884, he had partial double ptosis. In the right eye, the internal rectus, inferior oblique and sphincter iridis were paralyzed, and the superior and inferior recti feeble. The other muscles were normal. In the left eye the muscles supplied by the third nerve acted variably and feebly. The other muscles were normal. Both pupils were completely motionless to light and accommodation, the left larger than the right. Ophthalmological examination resulted as follows: R. V. = $\frac{2}{3} : \frac{4}{5} W + \frac{1}{4}$. L. V. = $\frac{2}{3} : \frac{4}{5} W + \frac{1}{4}$. R. A. = $\frac{1}{5}$. L. A. = $\frac{1}{4}$. There was no lesion of the optic nerves.

The left cheek was a little inactive, and there was a mild paresis of the right hand. Dynamometer: R. = 42 - 44, L. = 45. No Romberg symptom. Knee-jerks exaggerated. Both feeble and involuntary micturition. In 1885, the ptosis was nearly total on the left, but partial on the right side. In the right eye, the condition of the muscles had remained unchanged, while in the left, they had improved so much that they acted almost normally. Some paresis and atrophy of both temporal and both masseter muscles was now noted. In 1886, when lost sight of by Dr. Seguin, the ptosis was a little greater, the bladder still paretic, and the masticatory muscles unchanged. No

marked facial paresis. The knee-jerks, previously exaggerated, had fallen to about normal. Dr. Seguin, writing in 1888, had said of this case, that some of the symptoms seemed to justify a suspicion of incipient "posterior spinal sclerosis."

Since 1886 until the present time, there had been gradual progress in the disease. The present condition of the eyes was as follows: In the right, all of the muscles external and internal, except the rectus externus, were completely paralyzed. The rectus externus was paretic, and when moved exhibited clonic spasm. In the left eye, there was almost complete ophthalmoplegia *externa et interna*. Both pupils were widely dilated, equal and immobile. Divergent squint of right eye. Vision was unchanged. As far, therefore, as the innervation of the ocular musculature was concerned, we had now lesions affecting both third nerves, both fourth nerves, and both sixth nerves. The weakness and atrophy of the masseter and temporal muscles was more pronounced. These muscles did not react to Faradism. There was no anesthesia of the face. The tongue deviated slightly toward the left. The electrical reactions in the face and tongue muscles were normal. There was still some evidence of weakness in the right hand. The patient had now well-marked tabes dorsalis. There was marked ataxia of all four extremities. He could not walk without assistance. The knee-jerks had disappeared. There was numbness, anesthesia and analgesia in all of his fingers. In both legs, as far as the knees, there was almost complete tactile anesthesia. Muscular sense was entirely lost in both feet. In addition to other symptoms, which pointed out fully-developed locomotor ataxia, the patient presented some very interesting trophic disturbances. Beside that of the muscles supplied by the motor branches of the trigemini already described, there was wasting of the right trapezius, with a degenerative reaction. In the left upper extremity there was complete paralysis of the two long extensors of the phalanges of the thumb, and atrophy and paresis of the abductor minimi digiti and of all of the interossei and lumbricales, with degenerative reaction. On the right side there was almost complete atrophy of the opponens and abductor pollicis. Considerable wasting was apparent in the adductors of both thighs, more upon the right side.

The main features of the case might be summarized as follows: The patient had had a number of bilateral motor cranial palsies, namely, the third, fourth, fifth and sixth nerves. He had also exhibited slight traces of crossed paralysis for more than four years. Locomotor ataxia had been developed, as was shown by the occurrence at one time of lightning pains, and by the presence now of ataxia, widely distributed anesthesia, failure of knee-jerks, and ocular, vesical and anal symptoms. Finally, he had presented marked trophic changes in numerous muscles. As to the morbid processes underlying these various manifestations, there was in the first place undoubtedly a sclerosis of the posterior columns of the spinal cord. The ophthalmoplegia was, of course, nuclear. Read in one way, the symptoms on the side of the cranial nerves, taken in conjunction with the muscular atrophies and paralyses elsewhere, certainly very closely resembled the syndromes so well described by Dr. Sachs in a paper last year under the title of "Polio-encephalitis Superior, and Polio-myelitis." The most important matter to be settled in this case was whether the muscular

atrophies were due to peripheral or central lesions. Speculation upon the question would seem to be of very little utility, and its solution must be left to the hoped-for autopsy. It had been assumed by a number of authors that total paralysis of all of the muscles supplied by the third nerve, implied not a nuclear but a nerve-trunk palsy. In the writer's case all of the muscles of both third nerves were totally paralyzed, including both irides; and yet there was every reason to believe that the palsies were nuclear. It would at least be difficult to conceive of a lesion at the base of the brain so widely affecting the trunks of the third, fourth and sixth nerves, and the motor portions of both trigemini, yet permitting the escape of the sensory portions of the latter.

DR. C. K. MILLS thought that the case might be some peculiar, irregular form of syringo-myelia.

DR. E. D. FISHER suggested that the case was one of amyotrophic lateral sclerosis.

DR. SACHS thought the case very closely resembled one of his, in which the diagnosis was polio-encephalitis superior and polio-myelitis, although there were more symptoms of tabes dorsalis than in his case.

DR. PETERSON did not think the case one of syringo-myelia owing to the very symmetrical distribution of the nuclear palsies, and because there was no anesthesia of the upper extremities, face or trunk.

MULTIPLE NEURITIS, OR BERI-BERI, AMONG SEAMEN.

DR. J. J. PUTNAM reported about twenty cases of a disease resembling beri-beri, but possibly another form of multiple neuritis, occurring among fishermen in northern latitudes, and referred to a similar series of cases reported by Dr. F. C. Shattuck in 1881. By correspondence with physicians in the sea-port towns, Dr. Putnam had ascertained that, besides the larger epidemics, sporadic cases occurred from time to time. One physician had reported frequent cases of swelling and numbness of the hands attributed to handling fish. The influence of alcohol and the metallic poisons could be excluded; and since the outbreak occurred only now and then, the influences to which the seamen were habitually exposed could hardly be considered as the whole cause, though insufficient food had seemed to play a part in some instances. Most of the patients had recovered, but some had died.

DR. GRAY asked if these men carried large quantities of ice, because he had seen neuritis following the handling of ice, which had promptly subsided if this cause was removed.

DR. BIRDSELL asked as to the amount of air supplied to the hold of these vessels and to the seaman's quarters. Cases recently reported to him had led to the impression that the men who had died had been especially exposed to bad air in the hold, while those in good quarters had escaped. He agreed also that cold was an important element in the production of nearly all forms of neuritis.

DR. HEUTER asked if the diet had been of fish.

DR. PUTNAM said that fish had not been the diet, but salt pork, sometimes fresh vegetables and fresh meat. But in one of the worst cases it had been salt pork.

ON CASES OF POSTERO-LATERAL SCLEROSIS, WITH SPECIAL REFERENCE TO THE PATHOLOGY OF THE DISEASE.

Dr James J. Putnam referred to a series of eight cases of similar character, presenting the symptoms

of "combined sclerosis" of the spinal cord, which he had seen during the past few years, and reported four of them, in which he had examined the cord microscopically. All the cases of the series, though differing in some respects, resembled each other as follows: all the patients were past middle life; all were either anaemic or in a state of poor nutrition. The symptoms in all had consisted in both motor and sensory disorders in all four limbs, sometimes associated with incoördination, sometimes not. The knee-jerk was exaggerated in all but two or three; in those it was absent. Tabetic pains were present in one case only. Anatomically sclerosis was found in the posterior and lateral columns, varying in exact position. In almost every case the posterior change had seemed the older and most intense. Besides the "typical" sclerosis, there was evidence of a more recent process, characterized by granule-cell formation, and the breaking down of the nerve-tubes so as to form circular or oval spaces. This new process was developed on the borders of the older change. The gray matter of the cord was more or less affected, and the nerve roots in about the same degree. The cases had all run a rapid course, terminating, after one to four years, in death, preceded by paraplegia due to non-inflammatory softening. Next to inherent structural weakness, as an etiological factor, came impaired nutrition and toxic influences. The importance was pointed out of recognizing, and attempting to meet, the partial courses of the disease, of which several might be present at once. As special stigmata of degeneracy in these four cases, the writer referred to the mental condition and family history of several of the patients; to the remarkably abnormal shape of the cord in one; to the small size of the dorsal gray matter in another, and the presence of a second central canal in a third.

DR. S. G. WEBBER cited the case of a young girl, who, from excessive walking, had developed decided symptoms of lateral sclerosis. This patient had gradually recovered the use of her limbs.

DR. PUTNAM, replying to Dr. Dereum, said that there had been no serious involvement of the internal organs in any of the cases and no typical Bright's symptoms. These patients were so largely women that he could not but assume the existence of some lesion from impaired nutrition and constitutional taint.

THE PATHOLOGICAL FINDINGS IN DR. W. A. HAMMOND'S CASE OF ATHETOSIS.

DR. G. M. HAMMOND read a report on the pathological findings in the original case of athetosis on which Dr. W. A. Hammond's description of athetosis was based. After briefly referring to the case, Dr. G. M. Hammond stated the portion involved in the lesion had consisted of fibrous connective tissue. Topographically the lesion was a lengthy one in the antero-posterior direction, parallel in its short axis with the internal capsule. Its posterior end had invaded the stratum zonale of the thalamus on its posterior third and the posterior half of the internal capsule. In its anterior extension it had crossed the capsule, invading the posterior third of the outer articularis. The author called attention to the fact that the motor tract was not implicated in the lesion, and argued that this case was further evidence of his theory that athetosis was caused by irritation of the thalamus, the striatum or the cortex, and not by a lesion of the motor tract.

DR. E. C. SPITZKA reported a case in which the

lesion was found to be in the same situation as in Dr. Hammond's case.

DR. E. C. SEGUIN presented a paper on

ATHETO-CHOREIC SPASM OF THE RIGHT SIDE OF THE BODY.

The post-mortem had shown a glioma of the left thalamus opticus and adjacent internal capsule. Dr. Seguin's views were that all cases of athetoid and choreiform movements following hemiplegia were due to lesions involving the thalamus and adjacent capsule.

(To be continued.)

THE NEW YORK ACADEMY OF MEDICINE.

STATED MEETING May 15, the President, ALFRED L. LOOMIS, M.D., in the chair.

DR. L. L. SEAMAN, read a paper on

THE AUSCULTATORY PERCUSSOR.

This is an instrument constructed on scientific principles, by which, as explained by him, the practitioner is enabled to realize and delicately discriminate the percussion note, while adding to ordinary percussion the value of mediate auscultation; thus securing a trustworthy and explicit tonal reading of internal conditions. In conjunction with the Edison phonograph it also furnishes an instrument by means of which percussion notes may be accurately registered. When in use the object end of the instrument is placed directly over the area under examination. The thumb raises a lever which, when at a given height is released, the action of a strong spring throwing the hammer at its extremity vigorously down upon a flexi-metre. The hammer works in a bell-shaped receiving-chamber, and the impulse thus imparted forces the air into sonorous undulations, which, after deflection along the walls of the chamber, are propagated without dispersion to the ears of the listener by means of binaural tubes modelled after those of the Camman stethoscope.

DR. ROBERT ARBE, read a paper on

SPINAL SURGERY: A REPORT OF EIGHT CASES.

These cases, he said, had all been subjected to prolonged medical treatment, and when referred to him were in almost a hopeless condition. Almost as many more cases had been refused operation; but these seemed either to offer hope of relief based on experience, or to give legitimate opportunity for novel operative methods based on sound physiological principle. The spinal cord had been regarded as more inaccessible to the surgeon than the brain, and it was from the ranks of the doomed cases of paralysis of the lower half of the body, and some other spinal troubles that an effort was being made to call out more cases which, heretofore neglected, might yield good results.

Having referred to the articles published by White, Winslow, Bennett, Horsley, MacEwen, Thorburn and others, he said it was evident that some cases of improvement had been reported prematurely. The need of reporting carefully all cases where operation was done had led him to present his eight cases. These might be divided into four groups: three cases of paraplegia from fracture, one of early curetting of a vertebra for Pott's disease, two of tumors of the

vertebral canal with paraplegia, and two of intradural section of some of the posterior roots of the brachial plexus for neuralgia.

CASE I. Fracture of the spine between the eleventh and twelfth dorsal vertebrae: complete paraplegia and anesthesia. Operation eleven months afterward; breaking up intra-dural adhesions; suture of dura; primary union. No relief of paralysis up to one year afterward.

The patient was a merchant twenty-seven years of age, who fell from a platform twenty-one feet high May 19, 1888. He was unconscious for three hours, and was completely paralyzed, and insensitive below the waist when he recovered. After three months he resorted to a wheel-chair, and attended to business. In April, 1889, he was brought from Texas, where he resided, to Dr. L. A. Sayre, who referred him to Dr. Abbe. The operation was performed April 12th. The back was shampooed the evening before, and a damp, sublimate dressing kept applied until the moment of operation. The patient having been laid prone, but with one shoulder raised by a sand pillow, a free incision was made parallel with the spines and half an inch to one side, cutting the longissimi attachments from one side only, and being carried clean down to the laminae at the second or third pass of the knife. To approach the fracture, the incision was made from the eighth dorsal to the first lumbar spine. The laminae were now cleared of muscles, which were drawn outward by retractors, and the ligament divided above the spine of the eighth and below the eleventh; thus isolating a block of four spines, whose bases were then severed from their arches by stout cutting pliers. This manoeuvre at once allowed a retraction of the entire block of connected spines with their muscles still attached on one side, and the entire breadth of the spinal arch was thus exposed without sacrificing the overlying tissues. A pair of slightly curved rongeurs was now applied to the lower edge of one lamina, and with incredible ease the entire breadth was quickly gnawed away. Three arches, the tenth, eleventh and twelfth, were thus treated, and the clean spinal cord laid bare for two and one-half inches.

The twelfth dorsal vertebra was found to have been displaced backward, the fracture running through the articular facets, the pedicles and the laminae, and the cord was compressed between the arch of the eleventh above and the upper lip of the body of the twelfth below; while the intervertebral cartilage had been ruptured. Above the line of fracture, the cord pulsated; below, it did not. In half a minute after the cord was released from its flattened state (the bone-pressure area being only half an inch deep), the dura became rounded up as full as it was above or below. The wound now being irrigated and dried, the dura was slit up for two inches. Adhesions of various density were found within, attaching the meninges to the dura, and forming a complete circular dam, which shut off the upper from the lower part of the canal. Only an ounce of clear spinal fluid came out, as the spinal cord had purposely been inclined on the table so as to slope with the head lower. The adhesions were broken up with very little force. The cord was normal in thickness above the involved part; then by a sloping, rather than abrupt change, it merged into a flattened cord for three-fourths of an inch, retaining its breadth, but less than half its thickness. The principal atrophy seemed to be in the posterior col-

umns. Throughout this flattened portion the white fasciculi of the cord could be traced continuously; so that there was no abrupt break in its continuity.

The affected portion of the cord proved too extensive to render it possible to attempt to excise this and suture the fresh cut ends (a procedure never yet accomplished); but to judge whether such a thing would ever be possible, Dr. Abbe tried to approximate the sound end on either side of the damaged part by traction made with tenacula embedded in the meshes of the membranes at such points as would have been available for sutures. There being a slight latitude of motion of the cord vertically in the canal, he judged at this trial that he might have excised a scant quarter of an inch, and then approximated the ends by sutures that would not tear out. The damaged cord in this case was three times that length.

No further repair being possible, the dura was sutured by fine cat-gut. Then the displaced spines were brought into line and sutured by heavy cat-gut to their neighbors above and below. The fascia investing the muscles next received two or three interrupted cat-gut sutures, with gaps for drainage, and finally the skin was drawn partly together by a few cat-gut sutures, not tied but left for use at the next dressing. No drainage-tube was applied, but a piece of protective three inches wide was laid on the wound; the skin edges being left a quarter-inch apart so as to allow drainage. The investing antiseptic dressing was covered by a plaster jacket covering only the back, like a turtle shell, and secured by an enveloping Canton flannel binder pinned in front. In forty-eight hours the dressing was changed. Drainage had been perfect, and the wound had healed except the skin, which the sutures already in place now brought together when tied. A final dressing was then put on, and the wound healed primarily, leaving only a linear scar. The patient's condition has been watched since then and there has been no improvement in motion or sensation.

CASE II. Fracture of spine at the eleventh and twelfth dorsal vertebrae; paraplegia. Operation after two and one-half years.

This patient was also twenty-seven years of age. In October, 1886, he was thrown from his horse on his ranch in Montana and struck his back across a stick. Instantaneous and complete paraplegia resulted, with paralysis of the rectum and bladder. He lay for a day and a half where he fell without food or drink and exposed to sleet and snow. As soon as he was discovered he was taken to a farm-house, where, as a restorative, bottles of hot water so hot as to cause blistering were applied to his feet; and the blister resulted in gangrene. After three weeks he was removed to his home in Connecticut, where it was found necessary to amputate both legs below the knee. His general health afterwards improved to such an extent that he was able to be placed in his carriage and drive about; but a few months before he came under Dr. Abbe's care gangrene of the buttocks had resulted from his unwisely remaining in his buggy for about seven hours. His condition thus became desperate, and he was brought to New York in the hope that some method of operation might be devised for his improvement.

He was examined by Dr. C. L. Dana, whose conclusion was that the cord was absolutely severed at the last dorsal, but that below the second lumbar it

must be in fairly healthy condition. The case seemed absolutely hopeless unless it was possible to innervate the lower segment of the cord by renewing its contact with the upper, or what seemed not impossible and perhaps worthy of trial, by carrying out a suggestion of Dr. Dana, in case the parts were not too much injured, to cut off a few of the lower dorsal roots long and the lumbar roots short, and suture them together, thus increasing the chance of getting sensation. On April 18th, 1889, the same procedures were adopted as in the preceding case, and it was found that a massive and dense eburnated deposit of bone had formed at the site of the eleventh and twelfth dorsal and first lumbar laminae. This was with difficulty chiselled and cut away until the severed end of the spinal cord was exposed. Below this for one and one-half inches solid bone filled the vertebral canal, and beyond that the cord commenced again. Its end was found engaged in the bone so that spicule had grown into it; and it was evident that repair by suturing was hopeless. The patient lived for only thirty hours after the operation, and during this time but four ounces of urine were secreted.

CASE III. Fracture of the twelfth dorsal vertebra; paraplegia. Operation. Recovery unimproved.

The patient, who was of the same age as the other two, in alighting from a street car on January 1, 1889, was struck in the small of the back by the rear platform of the car. He fell on his hands and knees, suffered acute pain in the back, and at once became paralyzed. He was operated upon on February 28, 1889. The arch of the eleventh dorsal showed evidence of recent fracture, but there was no displacement and no pressure. When the dura was exposed, it appeared evenly full and round, and as far as its surface showed, nothing would have been suspected wrong within it. It was, however, slit for three and one-half inches, and from the lower part of the opening a little fluid escaped. At a point underneath the injured arch a circular dam of lymph was found, one-eighth of an inch wide, between the dura and the cord, entirely shutting off the upper from the lower part of the canal; and from above this dam the arachnoid fluid flowed freely. The cord at this point showed evidence of having been completely crushed, the white substance ending abruptly and beginning again something over half an inch below. In the intermediate space the cord was represented by a pinkish gray substance apparently consisting of only the meshes of the membranes. Just below the lymph dam a mass of largely distended veins occupied the surface of the cord, showing obstructed venous return. These entirely emptied themselves upward when the pressure was taken off and the lymph parted by the probe. The cord was entirely liberated from its adhesions, the dura sutured with fine cat-gut, and the wound closed. A temporary hyperesthesia of the paralyzed parts resulted from the operation, but there was never any voluntary motion, and the patient soon relapsed into his former condition.

In commenting on these cases Dr. Abbe said that all operators upon cases of fracture paraplegia of any duration have thus far arrived at about the same conclusion, namely, that the pressure of bone is of the most secondary importance, except the fracture involves only the arch, where it is driven in by a blow; inasmuch as the violence which will produce instant paralysis has done so by a diastasis of the vertebrae, the

cartilage being ruptured and the arches broken, which completely pulpitizes the spinal medulla. The vertebrae are very apt to immediately resume their usual relations. If, however, the fracture takes place at or below the last dorsal, where the medulla is replaced by the cauda equina, the crushing does not usually destroy the nerves; though long pressure would. In such case operation to correct it is always desirable. It still remains a problem, perhaps never to be solved, how to connect the lower segment of the cord with the upper, when there is a gap of half an inch, and whether this union would restore functional connection with the brain, even though its reflex and independent activity may be ever so good.

CASE IV. Pott's disease taken early and treated as a tubercular caries in one of the joints.

The case was narrated to show the ease with which the vertebral bodies, if carious, may be approached from behind. The patient was twenty years old. A probe inserted into a sinus resulting from a lumbar abscess passed upward to the last dorsal vertebra. An incision, guided by the probe, was made beside the twelfth dorsal. It was found that the transverse process of the vertebra was carious and it was cleared away with a bone curette, which was then worked into the body of the bone alongside the spinal dura, without injury to the latter. A large excavation of softened bone was removed (to the extent of about half of one vertebral body), and the curette then encountered firm and apparently sound bone. The entire course of the pus track through the soft parts was curetted and douched with sublimate solution, and finally with solution of iodoform in ether.

(To be continued.)

Recent Literature.

Transactions of the American Surgical Association.
Vol. VI. Edited by J. EWING MEARS, M.D., Recorder. Cloth, pp. 572. Illustrations and Plates. Philadelphia: P. Blakiston, Son & Co. 1888.

This volume contains, besides a full report of the transactions of the 1888 meeting, a list of the officers and members, the president's address, and reprints in full of the papers read, with the subsequent discussions. The list is too extensive to enumerate separately these interesting contributions, which are already well-known, from the pages of the principal medical journals, and subsequent publication of many as separate monographs. They are all of worth, but those of Senn, Keen, Packard, Bull, Gay, Willard, Cheever and Park have apparently attracted the most attention and interest. The work of the recorder and publisher has been excellently done, and this elegant volume, as has already been fittingly said, is one "distinctly a credit to American surgery."

Suggestive Therapeutics: A Treatise on the Nature and Uses of Hypnotism. By H. BERNHEIM, M.D., Professor in the Faculty of Medicine at Nancy. Translated from the Second and Revised French Edition by CHRISTIAN A. HERTER, M.D. Octavo, pp. xvi, 420. New York and London: G. P. Putnam's Sons. 1889.

Bernheim is to-day the acknowledged leader of the so-called Nancy school of hypnotism, and the volume before us is his own presentation of the doctrines of

that school. As is well-known, Bernheim is the disciple of Liébault, the founder of the school, and he has taken strong ground against the views of hypnotism presented by the school of La Salpêtrière. Bernheim's first chapter is devoted to the methods of hypnotizing, and a classification of the stages of hypnotism. His method is strictly by verbal suggestion. To this, he claims, the majority of people are susceptible. In a single year only 27 out of 1,012 patients proved wholly refractory, and, he adds, "it is wrong to believe that the subjects influenced are all weak-nerved, weak-brained, hysterical, or women. Most of my observations relate to men." He classifies the stages in two great divisions, according as memory is or is not preserved on waking: masking nine classes, all told, from mild somnolency to states in which hypnotic and post-hypnotic hallucinations can be produced with amnesia on waking. This chapter is followed by four chapters giving careful details of the various physical and psychological conditions which may be present in the hypnotic state, a chapter against the doctrine of Charcot, an historical chapter, and two chapters devoted to expounding his own theory of hypnotism. The second part deals with the therapeutic use of hypnotism, with the histories of 105 cases in which it was used with greater or less success.

Bernheim maintains stoutly that the manifestations of hypnotism are due solely to suggestion, "the influence exerted by an idea which has been suggested to and received by the mind." That the automatic condition thus produced is not abnormal is shown by the many automatic acts which we daily perform. In many of the cases, consciousness and will exist, in others, they are diminished or lost. There is, however, "exaltation of the ideo-motor reflex excitability, which effects the unconscious transformation of the thought into movement, unknown to the will," or of the ideo-sensorial reflex, transforming thought into sensation or into sensory image. "Sleep itself is born of a conscious or unconscious suggestion." Suggestions to be carried out after a long interval (*suggestions à longue échéance*) are due to latent memories (unconscious cerebration), such as those which enable us to awaken at a fixed time. The three stages of Charcot, lethargy, catalepsy and somnambulism are due solely to suggestion, and are not natural phases of the hypnotic state.

The therapeutic action of hypnotic suggestion is, if we may accept Bernheim's results, something remarkable. Contracture in hemiplegia and hemianesthesia from gross lesions of the brain, ulnar neuritis, pressure paralysis from fracture of the spine, myelitis, rheumatism, the pains of tabs, all forms of functional neuroses, gastritis, neuralgias, disorders of menstruation, all yield to suggestion; while bad results are never seen. "When it is well managed, it does not produce the slightest harm." "Hypnotic sleep in itself is beneficial, and is free from harm as is natural sleep." The only risk is in producing post-hypnotic hallucinations.

Such is the position that Bernheim takes in regard to hypnotism. It is certainly a question how far his views may be accepted. There is still much to be said in favor of the school of La Salpêtrière; this, first of all, that it is composed of men trained in dealing with nervous phenomena, and, therefore, better able to appreciate them. The cases of *grande hystérie* are certainly rare, but our knowledge of hysteria has received more light from the study of the pronounced phe-

nomena in these cases than from the study of the much commoner mild hysterical symptoms. So of organic diseases, our knowledge must be based first on the study of pronounced and typical cases before we can appreciate the slighter and more transient phenomena. The same must be said of hypnotism; the pronounced forms are to be seen only in the hysterical. The study of these cases will afford us knowledge of the type. Some of the milder symptoms, as Charcot has repeatedly admitted, can be obtained in many subjects; but the work of Charcot has given us definite knowledge in the light of which these abortive cases can be studied. The study at La Salpêtrière, as described by Richer, bears evidence of careful control and a scientific investigation; it has, moreover, been in part corroborated by the independent and thorough work of two eminent Italian observers, Tamburini and Seppilli, whose work has received too little attention in this country. They have established that the phenomena of hypnotism are not due, as Bernheim claims, solely to suggestion, but that they can be produced by purely mechanical means. This view is strengthened by the fact that animals can be hypnotized; here suggestion can hardly be called into account.

It is, moreover, an untenable position, in the light of our present knowledge, to hold that the hypnotic sleep is practically the same as natural sleep. Physiological research shows some analogies, but also marked differences in the circulatory, respiratory and reflex phenomena. Sleep itself may be born of a suggestion, and Bernheim's explanations of the way suggestion works in producing normal sleep are very beautiful, but the unimaginative mind fails to discover the part suggestion plays in producing slumber in a six-hours-old baby or a week-old kitten.

It certainly requires great credulity to accept the marvellous therapeutic benefits which Bernheim and some of his followers claim. The chances of self-deception on the part of the physician, and of conscious or unconscious deception on the part of the patient are great, and time alone can prove how many grains of salt are to be added to the prescription of suggestion. It renders us the more sceptical to find that the leading neurologists who have studied hypnotism claim far less than do the few "hypnotologists" of France who follow the professor of Nancy. The dangers, too, which Bernheim slighted are certainly not to be ignored. Cases of grave, nervous disturbance following hypnotism are not rare, and they rest on good authority; minor disturbances are probably still more common, and many observers have called attention to them. It is too early yet to pronounce definitely as to the future of hypnotism. It has added somewhat to our psychological knowledge. It has some therapeutic results to boast of, but whether it can give better, safer and more permanent results than our other measures of relief is still very doubtful. Except with a few enthusiasts, it seems already to be on the wane, and another decade will probably see it in its true place.

To all interested in the study, however, Bernheim's work will appeal, for it is the gospel of the Nancy school, and as such, it demands the attention even of those who dissent from its doctrines. The translation has been well done, but it is curious to find a New York man following the error of the original in speaking of the late Dr. Beard as "of Boston."

P. C. K.

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RECENT VIEWS AS TO INFLAMMATION.

THE microbial doctrines of the present day have completely changed prevalent notions as to the nature and purport of inflammation. Formerly it was taught that inflammation was the result of a local irritant causing an excessive afflux of blood to the part with vascular paralysis and exudation; this might be produced by a foreign body, as a thorn, a splinter of glass; it might be due to a poison in the blood, that is, some hypothetical fever poison, or *materies morbi* generated by cold. With the progress made in microbiology the past twenty or twenty-five years, the number of inflammations, clearly not of bacterial origin, has been greatly reduced; some authorities, as Gerster,¹ affirm that microbes are the *sine qua non* of all inflammations.

Even the "idiopathic" inflammations such as acute pleuritis, meningitis, etc., would be explained by these writers as being of parasitic origin (tuberculous or rheumatic, etc., even rheumatism being regarded as an infectious disease).

A popular hypothesis a few years ago was that inflammation is an abnormal nutritive process, the nutrition of a part being exaggerated and perverted under the influence of an irritant. This was afterwards modified or supplemented by the theory of alteration of the blood-vessels, this favoring stagnation, diapedesis, and exudation. Still later experimental investigations have greatly lessened the importance of the rôle to be attributed to ordinary irritants. The classic "thorn in the flesh," if perfectly aseptic, is rather harmful by interfering with the function of the part and by pressure on nerves, than by exciting inflammation or suppuration, which it does not do if all germs are rigidly excluded. Instances are cited² where foreign bodies, as well disinfected steel nails, the point of an aseptic knife-blade, a piece of glass perfectly clean, etc., have been imbedded in the tissues for weeks without causing any inflammation, or any great inconvenience. Even dead organic substances taken from a

freshly killed animal (blood, bits of muscle, tendon or bone) have been introduced into the abdominal cavity of animals under strict antiseptic precautions. "The animals being killed, it was found that blood was absorbed outright; that muscle, liver, tendon and bone were encapsulated; and that their structure was gradually invaded by granulation tissues, disintegration and final absorption following after a while, proportionate to the density of the implanted bodies."

The author from whom we have quoted alludes to a remarkable experiment of Tillman performed on a rabbit, in the abdomen of which an entire rabbit's kidney was deposited without causing any harm whatever. After forty-seven days the implanted kidney was sought for in vain, as it had disappeared by absorption. It is quite certain that if in these cases the ordinary aseptic measures had been omitted, septic purulent peritonitis would have followed.

With regard to chemical irritants, while there has not been uniformity of results among experimenters, careful and painstaking workers, like Klemperer and Scheuerlen, have found that when substances such as croton oil, turpentine and bits of glass, rendered perfectly aseptic, are antisceptically introduced under the skin of animals no suppuration has ever followed. "Small quantities caused some exudation of plasma, and then were absorbed outright." The fragments of glass "were found imbedded in a film of new formed connective tissue." Large quantities of croton oil, "caused a coagulation necrosis of a limited mass of tissue which was found dense, bloodless, and of a yellow color." These nodes of necrosed tissue were gradually absorbed, "suppuration never following the experiment."

As for the nature of inflammation, this is explained as follows — and here again we cannot do better than follow Gerster's lucid statement:³

"An injury of some kind has devitalized the tissues of a certain region, and these become a favorable pabulum for micrococci. The living tissues around still offer a decided resistance to the invasion of the microbe. Bacteria cannot thrive on the products of decomposition they need for their sustenance dead, but undecomposed albuminoid substances. As soon as the supply of dead animal tissue is exhausted the microorganisms starve and perish,⁴ while the spores are left behind, dormant. We will suppose the injury, resulting in the inflammation, to have been a wound; this has destroyed the vitality of those cells that lie in the direct path of the cutting implement. The blood and lymph exuded from the vessels coagulate and also represent dead matter.

"If a number of active micrococci are implanted into the bottom of the wound, they will at once multiply, using the blood-clot and its extensions into the blood-vessels, together with the adjacent dead or devitalized tissues, as welcome soil for their development. This fermentative decomposition produces from the very beginning certain poisonous alkaloids, ptomaines,

¹ *Ibid.*, p. 114.

² We do not understand the author of "Aseptic and Antiseptic Surgery" to advocate the extreme view that all inflammations are necessarily microbial; he certainly, however, teaches that all external inflammations are so.

³ *Aseptic and Antiseptic Surgery, 1888.*

⁴ See Gerster, *loc. cit.*

that are very diffusible. These have a toxic influence on the adjacent vaso-motor nerves, causing their paralytic dilatation; hence the active hyperemia, the *rubor*.

"The blood, passing through the adjacent arterioles and capillaries seems also to become altered; the red corpuscles become packed and finally stagnate in the smaller vessels. The walls of these vessels, including the veins, lose their impermeability, and there is emigration of the leucocytes and even of the red corpuscles into the surrounding tissues; hence the *swelling, tumor*.

"Chiefly as a consequence of the increased blood-supply, a marked increase of the local temperature is observed — *calor*. Direct pressure caused by the dense infiltration, and the actual destruction of the nerve tissue, perhaps also, in some measure, the immediate influence of the ptomaines on the sensory nerve filaments of the part, give rise to *pain*, the *dolor*.

"Stagnation and dense infiltration finally produce a very high degree of tension, leading to compression of large afferent vessels. The infiltrated portions, devitalized by suppression of the normal circulation readily succumb to the invasions of the millions of micro-organisms, and actual necrosis rapidly follows. The last stage of textural destruction is the final liquefaction of the tissues and infiltrating leucocytes, aided by the exudation of large quantities of lymph serum from the adjacent unobstructed blood-vessels, and thus we have the formation of an abscess, or a cavity filled with lymph serum, dead leucocytes (pus-cells) and shreds of necrosed tissue.

"The veins also participate in the disturbance, and coagulation of their contents — *thrombosis* — takes place, and adds to the existing stagnation."

In accordance with the explanation above given, any considerable extension of the septic process and absorption of the ptomaines into the general circulation produces those formidable accidents known as septic fever and pyæmia.

Such, in brief, is the latest teaching — by no means yet accepted by all pathologists — according to which the only phlogogenic irritant and pus-generator is the baneful microbe.

COATS OR SHIRT-SLEEVES?

To what extent the minimizing of raiment shall be carried during the summer months by those who are "off duty," and in the security of their own domiciles, will depend, of course, entirely on the fancy of each individual thus fortunately situated. But upon those who, in a business or a social way, mingle with their kind, obvious limitations are imposed. The most superficial observation will show that the prevalent methods of hot-weather dress have improved in reasonableness of late years, with the increasing development of various forms of "outing." Some very unnecessary comment was caused a year or two ago, during the hot weather, by the fact that certain United States senators appeared in their seats clad in flannel shirts. This summer a prominent Massachusetts congressman did not hesitate to wear in the House the *sash-and-no-waistcoat* garb which was comfortable and appropriate to the street. Yet another Massachusetts

member has gone so far, in the course of a debate in the House, as to take off his coat altogether. It is said that the Speaker, whose ideas of prerogative have never been considered to lack virility, has, perhaps from his own stalwart person being wilted by the vertical rays of Washington sun, so far yielded from his ordinarily uncompromising attitude as to intimate mildly that he hoped the members who contemplated taking part in debate would, at least, keep their trousers on.

And now the Memphis Cotton Exchange has been aggravating its already high temperature by a heated discussion as to whether the members of that board shall be allowed to do business in their shirt-sleeves. A strong conservative sentiment has developed, which seems likely to carry the day.

Sociology should have its word on this subject as well as climatology. A coat is a coat, for purposes of civilization; and when it can be as easily constructed of seersucker or pongee as of broadcloth, there seems little excuse for a gentleman's letting go of it altogether in public. If the National Congress and the Memphis Cotton Exchange do not stand firm on these points, the infection may spread, for aught we know, till it invades the pulpit and the Supreme Bench of the United States.

MEDICAL NOTES.

— The President last week transmitted to Congress a communication from Secretary Blaine announcing the action of the International American Conference regarding the better protection of the public against contagious diseases. Secretary Blaine in his letter says:

"The sanitary officers of the Gulf cities of the United States have hitherto found great difficulty in protecting the public health against contagious diseases brought by shipping from South America, Central America, Mexico and West Indian ports, without restricting the freedom of commerce. At certain seasons of the year the quarantine regulations, which they have been compelled to adopt, have often placed an absolute embargo upon communication with the tropical countries where such diseases originate. The same difficulties have been experienced in a like measure by the neighboring nations, and the attention of sanitary specialists, both in Europe and America, has been for years engaged in the task of devising some remedy.

"International sanitary conventions were held at Rio de Janeiro in 1887, and at Lima, Peru, in 1889, and were composed of eminent scientists who gave the subject the closest investigation. At both these conventions regulations were framed for the protection of shipping and of ports exposed to infections, which agree in all their essential provisions. Those of the convention of Rio de Janeiro were adopted by Brazil, Paraguay, Uruguay and the Argentine Republic, and are now enforced in the ports of those nations. The recommendations of the Conference have not been carried into effect. Colombia, Venezuela, and the

nations of Central and North America were not represented at either convention, but they are equally interested in securing the results desired, and the International American Conference recommends the acceptance and enforcement by them of the regulations of the Rio de Janeiro Convention, or those adopted at Lima, as the best systems that have yet been devised."

— The Alvarenga prize of the College of Physicians of Philadelphia, consisting of one year's income of the bequest of the late Señor Alvarenga, of Lisbon, has been awarded to Dr. R. W. Philip, of the Victoria Dispensary for Consumption and Diseases of the Chest, Edinburgh, for his essay on "Pulmonary Tuberculosis," which will be published by the College.

— It is said that the summer practice of Philadelphia and New York physicians at watering places on the New Jersey coast is seriously interfered with by the new medical law which went into effect in New Jersey, July 4th. By this statute every physician seeking to practise within the State's limits after its passage, must submit to a formal examination by State officers. Exempted from the provisions of the law were "commissioned surgeons of the United States army, navy or marine hospital service, or regularly licensed physicians or surgeons in actual consultation from other States or Territories, or regularly licensed physicians or surgeons actually called from other States or Territories to attend cases in this State."

Physicians called in consultation or those summoned to attend a special case were thus relieved of the necessity to pass an examination, but not so with the scores of doctors of Philadelphia and other cities who yearly settle at the seashore for the summer, and take up regular practice. The latter must be examined. A very few were forehand enough to register under the old law before the new went into effect, and so become practically New Jersey physicians, on going through the necessary formula just in time. It is now found that out of over 2,000 practising physicians in Philadelphia, many of whom practise in New Jersey during the summer time at least, only 150 at the most have registered in New Jersey.

— Another member of the British Peerage, the daughter of the Duke of Sutherland, has gone in for a course of training in nursing, having enrolled herself for that purpose in one of the London hospitals.

— *Druggist.* — "I don't see why we should be expected to sell postage stamps. They're not in our line."

Brown. — "Of course they're not. When you run out of them you can't give anything else as a substitute." — *Lippincott's Magazine.*

— Investigations recently made appear to show, as reported by a lay contemporary, that the lead-miner does not really suffer in health more than any other worker under ground, as the ore is not in a condition to be absorbed by the body, but that lead-smelters and all engaged in the manufacture of lead, particu-

larly white lead, run a very great risk of being contaminated sooner or later. It also appears that at Tyne-side, the chief centre of the English lead trade, there is one type of ailment which is rarely seen elsewhere, attacking those who have been engaged in the work only a few months, or even weeks — a fatal disease, the principal victims being girls of from seventeen to twenty-three years of age. They rapidly display symptoms of this form of toxæmia in the way of severe headache, followed by colic, blindness, and, unless they speedily leave work for a considerable period of time and undergo most careful treatment, the fatal result is rapidly ushered in, usually with epileptiform convulsions and coma. It is remarkable, however, that but little trace of lead is found in their bodies after death, perhaps not more than a few grains in the internal organs after they have been subjected to the most complete and exhaustive examination.

NEW ENGLAND.

— The executors of the will of the late Dr. T. J. W. Pray of Dover, N. H., have recently paid a legacy of \$1,000 in his will to Dr. L. G. Hill and others as trustees of the New Hampshire Medical Society.

NEW YORK.

— Mr. Cornelius Vanderbilt, in conjunction with his mother, Mrs. Wm. H. Vanderbilt, has given \$250,000 for the erection and maintenance of a building on East Forty-second Street, to be known as St. Bartholomew's Mission, which is designed for the health and comfort, as well as the morals, of the tenement population in the neighborhood. It will be constructed of white brick with dark red terra-cotta trimmings, and will be six stories high with a depth of one hundred feet and width of seventy-five feet. In the basement there will be a large swimming bath for the use, at different hours, of both sexes, with a heating apparatus for cold weather. On this floor will also be a kitchen and dining-room and a work-room for the temporary employment of people out of work. The main floor will be occupied by the chapel and a large hall for mission services, which will be two stories in height. The third floor will be devoted to rooms for the Sunday school and for mother's meetings and sewing classes; and the fourth to a library, reading-room, boys' club and assembly and class rooms. The fifth floor will be fitted up as a fully equipped gymnasium, to be open at different hours to both men and women, and on the upper floor will be the offices and living rooms of those engaged in the administration of the establishment. The whole is to be under the direction of the rector of St. Bartholomew's church.

— The city's mortuary reports are showing the effect of the recent hot weather. During the week ending July 5th, 1,010 deaths were recorded, an increase of 135 over the previous week, and showing a death-rate of 32.29 in an estimated population of

1,631,848. Of these, 326 were from diarrhoeal diseases in infants and young children. In order to prevent as far as possible the excessive mortality liable to occur among the children of the tenement-house population during the hot weather the usual summer corps of extra physicians has been appointed by the Board of Health, and they have been hard at work in house to house visitation since the first of July. The St. John's Guild Floating Hospital excursions and other charitable agencies for removing poor children temporarily to the country and seaside also have a favorable effect in keeping down the number of deaths.

— In a case in Brooklyn in which a patient was supposed to have died of an over-dose of hyoscyamine, in consequence of a druggist's mistake, the undertaker in charge of the body in some way was allowed to use an embalming process (which effectually destroyed all traces of the poison, if such there were), before the coroner made his post-mortem examination. Consequently the case against the clerk who put up the prescription, who had been held in \$2,000 bail, will probably fall to the ground.

— A druggist's clerk on Centre Street recently made the blunder of giving oxalic acid to a man who asked for five cents' worth of Epsom salt; but fortunately it was discovered that a mistake had been made in time to save the patient's life. He was promptly taken to the Chambers Street Hospital, and the use of the stomach pump was followed by a satisfactory result.

— All preparations have been made for opening the new Croton aqueduct on the 15th of July. The tunnel of the aqueduct is 29.63 miles long, and its estimated capacity is 318,000,000 gallons for twenty-four hours. The pipe line from 135th Street to the reservoirs in Central Park has a capacity of 250,000,000 gallons for twenty-four hours, and is 2.37 miles long.

— The State Commission in Lunacy, as a result of a series of visitations recently made to the State asylums, has urged the adoption of very strict regulations for the prevention of fire in these institutions.

— For the third time Kemmler has been sentenced to death, and the execution is now fixed for the week beginning August 4th, at Auburn Prison.

— The Board of Health has been making an investigation of the pipes of the Steam Heating Company in the lower part of the city, and in consequence of the results brought to light, has passed a resolution to effect that in its opinion the heat from the steam mains that are laid in close proximity to the gas mains, to the Croton water mains and to the sewers and vaults, creates new and dangerous emergencies and greatly increases the risk to the public health from the streets and street openings, sewers and vaults in the part of the city examined; and that the extreme heat coming from these mains is a menace to the public health, and its effect on the basements of many buildings situated along the line of these steam

mains is productive of conditions dangerous and detrimental to life and health. In accordance with this resolution the Board, by virtue of the authority legally vested in it, has issued orders declaring the steam mains at certain points to be a public nuisance, and requiring that they no longer be used.

The investigation showed that the high temperature noted was to be ascribed in part to direct radiation from the steam mains and in part to the escape of steam from leaks in the mains. In some places the water service was affected; the water being delivered at a very high temperature. The report of the inspectors who made the examination goes on to say: "The numerous explosions which have occurred, especially in the lower districts of the city, are chiefly due to leakage of gas from the gas mains, as would appear from the fact that the leakage is greater from the mains laid in streets in which there are steam mains than elsewhere. . . . The heat of the steam mains is intermittent and causes contraction and expansion of the gas mains, thereby loosening the joints and causing them to leak. . . . The gas escapes into sewers and subway manholes, forming an explosive mixture with the air. It becomes ignited and explosion ensues."

Miscellany.

STANLEY'S ESTIMATE OF HIS DOCTOR.

In Stanley's book "In Darkest Africa" he speaks repeatedly with the greatest esteem of the medical officer of the expedition, Surgeon Parke. We insert one such paragraph:

"This expedition possesses the rarest doctor in the world. No country in Europe can produce his equal in my opinion. There may be many more learned perhaps, more skilful, older, or younger, as the case may be, but the best of them have something to learn from our doctor. He is such a combination of sweetness and simplicity; so unostentatious, so genuinely unobtrusive. We are all bound to him with cords of love. We have seen him do so much out of pure love for his 'cases,' that human nature becomes ennobled by this gem. He is tenderness itself. He has saved many lives by his devoted nursing. We see him each day at 8 a. m. and 5 p. m., with his selectest circle of 'sick' around him. None with tender stomach dare approach it. He sits in the centre as though it was a rare perfume. The sloughing ulcers are exposed to view, some fearful to behold, and presenting a spectacle of horror. The doctor smiles and sweetly sniffs the tainted air, handles the swollen limbs, cleanses them from impurity, pours the soothing lotion, cheers the sufferers, binds up the painful wounds, and sends the patient away with a hopeful and grateful look. May the kindly angels record this nobleness and obliterate all else! I greatly honor what is divine in man. This gift of gentleness and exquisite sensibility appeals to the dullest. At Abu-Klea our doctor was great; the wounded had cause to bless him; on the green sward of Kavalli, daily ministering to these suffering blacks, unknowing and unheeding whether any regarded him, our doctor was greater still."

MEDICAL INSPECTION OF IMMIGRANTS BY CONSULAR PHYSICIANS.

PRESS dispatches state that the United States Marine Hospital service has decided to establish physicians at every port in Europe from which immigrants embark to this country, in connection with the United States Marine-Hospital service.

The physicians will, in every case, work under the supervision of the United States Consul at the port where they are stationed. It will be the duty of these doctors to examine immigrants intending to sail for this port, and to prevent the embarkation of the great army of the lame, the halt and the blind people, who for years have been pouring into this country, only to fill up the county and State pauper institutions.

Particular attention will be given to rejecting people suffering from contagious diseases and all complaints of a scrofulous nature.

The plan proposed has been successfully carried out in connection with the Marine-Hospital service in West Indian and South American ports, and the effect of this protection to the United States in the exclusion of contagious diseases is considered incalculable by the members of the service. Thus, while yellow fever is raging at Santos and Rio Janeiro, Brazil, there is very little danger of its getting into New York, even in the summer season.

In connection with this work, the European consuls are expected to also make examinations particularly with regard to criminal cases and those who claim to be citizens of this country. If the candidate proves to be actually a citizen, the consul will issue to him a certificate.

It is understood that women about to become mothers will also be included in the class to be kept from embarking.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 5, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-tion.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,337	1010	663	42.57	7.29	1.89	32.31	.27
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,277	623	336	29.92	10.72	1.44	25.44	2.08
Brooklyn	832,467	552	373	42.06	4.86	4.86	34.56	.36
St. Louis	550,000	312	164	25.28	20.80	.96	22.72	1.28
Baltimore	500,343	242	131	37.72	9.43	1.64	30.34	2.05
Boston	418,110	146	52	9.66	15.87	4.83	.69	.69
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	260,000	185	66	22.14	11.88	.54	15.66	1.08
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	130	70	32.34	7.69	1.54	23.07	5.39
Nashville	65,133	33	17	27.27	6.06	—	24.24	—
Charleston	60,145	49	20	18.36	12.16	—	14.28	2.04
Portland	42,000	—	—	—	—	—	—	—
Worcester	51,622	19	7	21.04	15.78	—	15.78	—
Lowell	73,370	40	22	42.50	5.00	2.60	30.00	7.50
Cambridge	67,026	16	7	18.75	37.50	—	6.25	—
Fall River	64,092	19	13	57.86	10.52	5.26	47.34	—
Lynn	55,200	—	4	—	—	—	—	—
Springfield	41,520	21	6	28.56	14.28	19.04	4.76	—
Lawrence	41,088	29	14	24.15	20.70	—	17.25	3.45
New Bedford	38,218	13	4	15.38	7.69	—	7.69	7.69
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salisbury	26,442	18	3	11.11	5.55	5.55	5.55	—
Chelsea	26,781	6	2	—	—	—	—	—
Haverhill	27,124	11	3	9.09	—	—	9.09	—
Taunton	25,544	5	0	40.00	20.00	—	20.00	20.00
Gloucester	24,904	6	1	16.66	33.33	—	—	—
Newton	22,011	5	2	—	—	—	—	—
Malden	20,615	8	1	—	—	—	—	—
Waltham	17,998	1	0	—	—	—	—	—
Fitchburg	17,304	5	3	—	40.00	—	—	—
Arlington	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	3	2	33.33	—	33.33	—	—
Quincy	14,114	4	2	—	50.00	—	25.00	—
Newburyport	13,915	5	1	—	—	20.00	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,405; under five years of age 1,960: principal infectious diseases small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 1,203, diarrhoeal diseases 265, diphtheria and croup 84, typhoid fever 44, measles 28, whooping-cough 27, scarlet fever 21, malarial fevers 19, cerebro-spinal meningitis 11, erysipelas 4.

From measles, New York 23, Baltimore 3, Brooklyn and Boston 1 each. From whooping-cough, New York 10, Philadelphia 4, Brooklyn, Boston and Cambridge 2 each, St. Louis, Baltimore, Washington, Charleston, Lowell, Lawrence and Quincy 1 each. From scarlet fever, New York 9, Brooklyn 4, Baltimore 3, Philadelphia, Boston, Washington, Worcester and Springfield 1 each. From malarial fever, New Orleans 9, New York 5, Brooklyn 2, Philadelphia, Baltimore and Nashville 1 each. From

cerebro-spinal meningitis, New York 4, Brooklyn, Baltimore, Boston, Washington, Fall River, Lynn and Gloucester 1 each. From erysipelas, New York 3, Brooklyn 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,539, for the week ending June 21st, the death-rate was 17.9: deaths reported 3,334: acute diseases of the respiratory organs (London) 215, measles 172, whooping-cough 98, scarlet fever 65, diarrhoea 57, fever 35, diphtheria 32, small-pox (Derby and Hull 1 each) 2.

The death-rates ranged from 11.8 in Brighton to 29.0 in Manchester: Birmingham 18.6, Bolton 23.9, Hull 15.9, Leeds 14.9, Leicester 14.9, Liverpool 21.3, London 16.4, Nottingham 12.6, Sheffield 24.4.

In Edinburgh 16.9, Glasgow 25.9, Dublin 20.8.

The meteorological record for the week ending July 5, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:-

Week ending	Barometer.		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Saturday, July 5, 1890.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday... 29	28.89	61.0	73.0	56.0	58	66	62.0	N.E.	S.W.	4	14	C.	F.	
Monday... 30	29.91	72.0	72.0	58.0	55	74	76.0	W.	E.	5	12	C.	C.	
Tuesday... 1	29.98	70.0	74.0	67.0	62	81	75.0	N.E.	E.	8	6	C.	O.	
Wednesday... 2	29.96	70.0	77.0	63.0	85	86	85.0	S.	S.	4	12	O.	O.	
Thursday... 3	29.82	71.0	77.0	66.0	85	77	80.0	S.	S.	12	15	O.	O.	0.03
Friday... 4	29.79	74.0	80.0	65.0	82	80	81.0	S.	S.	6	10	O.	O.	0.06
Saturday... 5	29.96	76.0	85.0	70.0	57	93	85.0	N.W.	N.W.	5	5	C.	T.	
Mean for Week.														

* O., cloudy ; C., clear ; F., fair ; G., fog ; H., hazy ; S., smoky ; R., rain ; T., threatening ; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 4, 1890, TO JULY 11, 1890.

Captain JOHN DE B. W. GARDINER, assistant surgeon, having been found incapacitated for active service by an army retiring board, and having complied with paragraph 12, Special Orders 35, June 10, 1890, from this office, is, by direction of the acting Secretary of War, granted leave of absence until further orders on account of disability. Par. 3, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

By direction of the Secretary of War, the leave of absence, on surgeon's certificate, granted Captain MARCUS E. TAYLOR, assistant surgeon in Special Orders 45, June 13, 1890, division of the Pacific, is extended five months on surgeon's certificate of disability, with permission to go beyond sea. Par. 6, S. O. 159, A. G. O., July 10, 1890.

Captain SAMUEL Q. ROBINSON, assistant surgeon, is relieved from temporary duty in the United States Medical Academy, West Point, N. Y., to take effect upon the arrival there of Captain W. Fitzhugh Carter, assistant surgeon, and will report in person to the commanding officer, Fort Du Chesne, Utah, Ty., for duty, relieving Captain Curtis E. Price, assistant surgeon. Captain PRICE, on being relieved by Captain Robinson, will proceed to Fort Wardsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Captain Robert B. Benham, assistant surgeon. Captain BENHAM, on being thus relieved from temporary duty at Fort Wardsworth, will report in person, without delay, to the commanding officer, Fort Hamilton, New York Harbor, for duty. Par. 12, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 12, 1890.

RIXEY, P. H., surgeon, leave of absence granted for fifteen days.

ODGEN, F. N., assistant surgeon, promoted to be a passed assistant surgeon.

WHITE, S. STUART, assistant surgeon, promoted to be a passed assistant surgeon.

ATLEE, L. W., assistant surgeon, granted three months' leave of absence.

WOOLVERTON, T., medical inspector, await orders to the U. S. S. "Philadelphia."

LOVERING, P. A., past assistant surgeon, await orders to the U. S. S. "Philadelphia."

MCMURTHIE, D., medical inspector, granted leave of absence for thirty days.

OBITUARY. WILLARD EVERETT SMITH, M.D., M.M.S.S.

Dr. Willard Everett Smith died, at his home in Boston, July 14th, after an eight days' illness from peritonitis. Dr. Smith was a graduate of the Harvard Medical School in 1882. He first located for practice in Framingham Centre, marrying his wife, a Miss Newell, there. A few years ago he removed to Boston. He had been a valued contributor to this JOURNAL, and had prepared useful reports to the Massachusetts Medical Society on the Distribution of Disease in this State.

BOOKS AND PAMPHLETS RECEIVED.

A Consideration of Sexual Neurasthenia. By Bransford Lewis, M.D., of St. Louis, Mo. Reprint. 1890.

McGill University, Montreal. Annual Calendar and Faculty of Medicine. Fifty-Eighth Session 1890-91.

Thirty-Third Annual Announcement of the Bellevue Hospital Medical College, New York City, 1890-1891, with the List of Graduates for 1890.

Illustrated Catalogue and Price List of Dr. Geo. H. Taylor's Remedial Apparatus. The Improved Movement Cure Institute, 71 E. 39th Street, New York.

Twenty-Third Annual Report of the Directors of the Massachusetts Infant Asylum, Presented to the Corporation at the Annual Meeting April 8, 1890.

Twelfth Annual Report of the Connecticut State Board of Health, for the year ending November 30, 1889, with the Registration Report for 1888, relating to Births, Marriages, Deaths and Divorces.

Terminologia Medica Polyglotta, A Concise International Dictionary of Medical Terms. Compiled by Theodore Maxwell, M.D., B.Sc. Lond.: F.R.C.S., Edin.; etc. London: J. & A. Churchill, 1889.

The Use of Powdered Jequirity in Certain Affections of the Eye. By W. Chetham, M.D. Lecturer on Diseases of the Eye, Ear, Throat and Nose, Medical Department, University of Louisville. Reprint. 1890.

I. Operative Treatment of Hip-Disease. II. Root and Fixation in Joint-Disease. By Dr. Forest Willard, M.D., Ph.D., Clinical Professor of Orthopaedic Surgery in the University of Pennsylvania, etc. Reprint. 1889.

The Brooklyn Health Exhibition. Held under the auspices of the Local Committee of Arrangements of the American Public Health Association (at its Seventeenth Annual Session) at Brooklyn, N. Y., October 22 to November 30, 1889.

Supra-Vaginal Hysterectomy. Hysteromyectomy with Suspension of the Stump in the Lower Angle of the Abdominal Incision. By Howard A. Kelly, M.D., Gynecologist to the Johns Hopkins Hospital, Baltimore. Reprint. 1890.

A Manual of Anatomy for Senior Students. By Edmund Owen, M.B., F.R.C.S., Surgeon to St. Mary's Hospital, London, etc., Co-Lecturer on Surgery in its Medical School. With numerous illustrations. London: Longmans, Green & Co. 1890.

Leçons de Thérapeutique. Par Georges Hayem, Professeur de Thérapeutique et de Matière Médicale à la Faculté de Médecine de Paris, Membre de l'Académie de Médecine. Deuxième série. Les Médicaments (Cours professé à la Faculté de médecine de Paris pendant l'année 1888). Paris: G. Masson, Éditeur. 1890.

Reciprocal Responsibilities. An Address Delivered on the Part of the Faculty at the Forty-First Commencement Exercises of the Medical Department of Georgetown University, at Lincoln Hall, on May 8, 1890. By Swan M. Burnett, M.D., Ph.D., Professor of Ophthalmology and Otology in the University, etc.

Annual of the Universal Medical Sciences. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by Chas. E. Sajous, M.D., and seventy-five associate editors, assisted by over two hundred corresponding editors, collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps. Vols. I, II, III, IV, V. Philadelphia, New York, Chicago, Atlanta and London: F. A. Davis. 1890.

Lecture.**INFLUENZA IN MASSACHUSETTS.¹**

BY GEORGE B. SHATTUCK, M.D., OF BOSTON.

BRISTOL COUNTY.

I HAVE tabulated thirteen manufacturers' returns from Bristol County, covering about 7,000 employees. Of these three are from New Bedford, six from Fall River, three from Taunton — all in the southern half of the county — and one from Attleboro near the northern border.

The earliest first case, December 14th, is reported from Attleboro' at the north, but two mills at Fall River report first cases December 15th; the latest first cases are at Fall River and New Bedford — the southern extremity, but in close railroad communication with Boston — each January 6th; the largest mill at New Bedford, however, reports its first case December 31st, and the third mill January 1st.

The three returns from Taunton agree substantially upon December 30th as the date of the first case. All the returns, except one from Fall River, which names the last week of December, agree practically upon the second week of January as the maximum week.

The percentage of affected varies from 60% to 5%, the average being 29%; the absence from work an average of five days.

The superintendent of the Granite Cotton Mill at Fall River writes a letter of some interest under date of February 4th:

"The influenza made its appearance among our people December 27th, the day after the great gale which swept over the Eastern States. December 30th, when the temperature fell from 54° F. to 37° F., the number of victims increased rapidly, and reached a crisis a few days after January 1st, when there was another fall in temperature from 36° to 20°, followed by a cold wave, which those who dressed in holiday attire and engaged in New Year's festivities were not prepared to meet, and the number of victims continued to increase until January 13th, when a large percentage returned to work, and since that the number of those off work has steadily decreased, and to-day there are only seven cases among 836 employees.

The treasurer of a cotton mill at Taunton, 1,200 employees, sends very accurate figures, from which it appears that of 650 males, 221 were sick, an average of 4.73 days; and of 550 females, 259 were sick, an average of 5.95; so that at this mill the females were sick in greater numbers and more seriously.

Medical Returns. — I have tabulated seven medical returns from this county, all from the southern half of the county, except one from Attleboro'. The earliest first case is December 10th, from New Bedford; the latest first case, December 28th, from Fall River near by. The next earliest case is from Attleboro', at the northern part of the county, December 18th. All the returns, except one, which gives the first week in January, name the second week in January as the maximum week.

The percentage of affected varies from 60% in Attleboro' to 10% in Fall River. Average 33%.

¹ Delivered before the Massachusetts Medical Society June 10, 1890. Continued from page 52 of the Journal.

Sex. — Three state that males were most affected, one females.

Other Diseases. — Four returns state that pneumonia was most increased in frequency.

Conclusions. — I think we may conclude from the two classes of returns in this county that influenza was at least a week later here than in Boston (Suffolk County) and that where males and females were equally withdrawn from out-door exposure the females suffered more.

PLYMOUTH COUNTY.

Only three factory returns received, all three from shoe shops in Brockton and its neighbor Campello, in the northwestern corner of the county. These returns cover nearly 1,000 employees.

The answers to question 1 are January 1st, 2d and 10th; to question 2, the 3d of January, the second week and the third week; that the climax was not reached any earlier in the shop where the first case occurred January 1st, than where it occurred January 10th. The percentages of affected were 60%, 20%, and 40%; and the days of absence from work 2, 7 and 5. The sexes are returned as affected alike.

Medical Returns. — There are four from Plymouth County. From Abington the answers to questions 1 and 2 are December 5th and the week from December 29th to January 4th; from Brockton the answers to 1 and 2 are December 20th and second week in January; to question 3 this return gives 50% of the population as attacked. From Middleboro', farther south, the first case is reported as occurring on the same day as at Brockton, and the climax as occurring the same week, but only 10% of the population was affected.

From Rockland, the next township to Abington, the first case is set down for December 22d, eighteen days later than the first case at Abington; the climax, however, was reached about the same time in the two towns; at Rockland only 6% is returned as attacked.

Three of the four answer the male sex to question 5; two specify pneumonia, and one pulmonary disease as being increased.

Obviously no definite conclusions can be drawn from the returns from this county.

The case in Abington, December 4th, was probably antecedent to the true epidemic; and the epidemic perhaps began a little later and culminated a little later than in Suffolk County.

NORFOLK COUNTY.

Five factory returns, one silk, one woollen, one cotton, one straw, cover from 1,500 to 2,000 employees. The earliest first case is December 16th, the latest December 28th; in two returns the climax is reached the first week in January, in two the second week in January, in one the week January 4th to 11th.

The silk factory reports 60% of affected and of absentees an average of 5 days; the straw factory 50% of affected and 20% of absentees, an average of 3 days; the woollen mill 15% of affected and 10% of absentees, an average of 4 days; the cotton mill 6% of affected and 3% of absentees, an average of 3 days. The first case at the woollen mill in Dedham was December 16th, and the first case at the cotton mill at Readville in the next township was December 25th, but the period of greatest activity at each was the first week in January.

Medical Returns.—There are thirteen from Norfolk County representing twelve different towns. West Medway, at the western border of the county, reports a first case as early as October 20th—evidently a sporadic case of catarrhal fever; Hingham near the coast, and just north of Abington, with its first case December 4th, reports its first case November 15th; 12 "distinct cases" are reported as occurring in Brookline November 17th—perhaps a local outbreak; Stoughton, on the southern border of the county and contiguous to Brockton, with its first case December 20th, reports a first case November 20th; Dedham's first case is returned for December 12th; of two returns from Hyde Park, one gives the first case as December 7th, the other December 27th; the Medical Examiner at Brookline gives the date of the first case there as December 15th; the first case at Foxboro' is the latest—December 25th. East Weymouth gives December 21st; Braintree and Randolph (next to Stoughton with its first case November 20th) give December 20th. Eight towns return the first week in January or the week from December 28th to January 4th, as the week of greatest prevalence. Two towns, West Medway with its first case October 20th, and Hingham with a first case November 15th, report the second week of January as the week of greatest prevalence, which indicates pretty well the character of the so-called first cases. The return from Hyde Park which dates the first case December 7th, puts the climax at the fourth week of December; that from Quincy which dates the first case December 1st, puts the climax the first week in January, the same week as those dating the first case December 20th. At Braintree and Wellesley Hills 75% of the population is said to have been attacked; various percentages are given for the other towns between this and 20% for Hingham and 15% for Brookline at the other end of the scale. The average is 51%.

Sex.—Eight returns from as many different towns specify the male sex as having been most severely affected. The others make no return to this question, except one which states that the female population was the larger.

Medical Returns.—Seven returns state that pneumonia was increased, and three others that pulmonary diseases were increased. One return mentions capillary bronchitis in connection with pneumonia.

SUFFOLK COUNTY,

the next on the north, is really the City of Boston with Chelsea; from the small towns of Revere and Winthrop, also within the county limits, there are no returns.

There are seven returns from the large Boston dry goods stores. One places the first case as early as December 1st, but reports the same week of greatest prevalence (December 28th to January 4th) as another store which reports the latest first case of the seven, December 22d. Two date the first case December 10th, one December 16th, one the 20th. Four give Christmas week as the climax, but this is partially explained by one return which says: "Our employees were lightly touched, and there were no more absences than usual at Christmas time which is always the cause of much fatigue." Two stores return 50% of employees as affected and 45% as absent in consequence; one returns 50% as affected but only 5% as absent—a singular discrepancy; one,

33% as affected and 25% absent; one, 10% affected and absent. The average duration of absence varied from 2 to 7 days. Two stores report the male sex as most seriously affected.

There are returns from nine banks and Trust Companies. Among the personnel of two banks no case of influenza occurred. One dates the first case December 10th, one December 13th, one December 16th, one December 17th, one December 20th and one the 27th. The large banking house with 44 employees reporting its first case December 13th, gives the second week of December as the week of greatest prevalence; 60% were attacked and 45% were absent an average of four days. If this is a correct statement, and there is every reason to accept it, it indicates that the epidemic exhibited an almost explosive character at this point.

A Trust Company, with 26 officers and clerks, dating its first case December 17th, gives the immediately following week as that of greatest prevalence.

Two banks report 75% of affected with 25% and 20% of absentees; one, 50% with 33% absent; one, 33% affected and absent; one, 25% affected and absent. The average of absences varied from three to six days.

At the Trust Company with 26 employees, three had a second attack incapacitating for work; and "the oldest" of the staff are reported to have had immunity.

These bank returns dealing with comparatively small numbers under immediate supervision, are probably pretty reliable. They indicate that the influenza began as an epidemic in Boston about the middle of December and was on the wane by January 4th; that at least 50% of the young and middle-aged male population were attacked, and that about 25% were incapacitated for work for four or five days.

The return of the Central Boston Post Office where there are 472 employees (clerks), dates the first case December 15th, and the week of greatest prevalence December 28th to January 4th, which corresponds pretty accurately with the hospital and medical returns; 29% were said to be affected, 22% were incapacitated and absent an average of four days; male employees were most severely affected, but only 25 women are employed.

The North End Station of the Boston Gas Light Company employs 320 men, and dates its first case December 27th, and its week of climax is given as the first week in January; 55% were attacked and 18% absent an average of three days. The Superintendent writes a somewhat interesting letter, to the following effect:

"At the South Boston works, where thirty men were employed, the first case appeared December 28th, and it prevailed unceasingly the first three weeks in January; 64% of all men were attacked, and all were obliged to leave work about four days. The last case was cured January 24th. Men who worked at the fires and were subjected to heat and chill, and men of sedentary habits were attacked. Every man in the

* In response to my request, separate returns were made up for the telephone clerks, 153 in number, at the Central Station, who were mainly men working in the open air, thus differing from the office workers. The week ending December 10th, a daily average of 6.3% were absent from duty, December 19th, 6.14%; December 27th, 6.6%; January 4th, 10.36%; January 12th, 11.67%; January 22d, 9.48%; January 30th, 10.4%; February 8th, 10.44%. The percentage of daily absences was doubled from the week ending December 10th to that ending January 12th. The maximum week was apparently a week later than among the clerks.

retort houses and all the office men had it, while only one street laborer, and none of the yard men were attacked."

The Whittier Machine Company of the Roxbury District, employing 261 men, presents a singular return; its first case was December 22d, the week of climax the first in January, only 4½% were attacked and only 2½% absent an average of seven days. The Chelsea Dye House had its first case December 5th, its maximum week the fourth week in December, 40% of its 92 employees were attacked and 35% absent an average of seven days.

The average percentage of affected in eight mercantile houses in Boston, employing males, almost exclusively, is 50%.

Medical Returns. — There are twenty-three from Suffolk County — all from Boston except one from Chelsea — which I have tabulated.

One first case is reported December 1st, one December 5th, three December 12th, but in each of these returns the maximum week is given as the last week in December. The Chelsea return dates the first case as late as December 25th and the maximum week the first week of January.

The latest first cases returned from Boston proper are those dated December 20th. The greatest number of returns (five) giving the same date for the first case are for December 17th, and there are three giving December 16th. It would be fair to assume the middle of December as the date of the beginning of the epidemic in Boston. Ten returns give the last week of December as the maximum week, three the week from December 28th to January 4th, and three the first week of January. It is probably fair to assume that the epidemic began to decline in Boston about the end of the first week of January.

It took, therefore, ten or twelve days to reach its climax, where it held probably five or six days.

One return from Charlestown District gives 80% as the proportion of the population attacked, one from Brighton 75%, one from Roxbury 70%, two from Boston proper 65%, two 50% — these must be estimates or guesses. One return says 44% of persons in families visited, one 25% in families visited. The lowest percentage from Boston proper is 20%, and the lowest of all, from Chelsea, 17%. The average is 44%.

Sex. — Of those answering question No. 5 as to sex, five say male, three female, one "happened to be female in my practice."

Other Diseases. — Twenty-three state that pneumonia was increased (one specifying fibrinous pneumonia); one states that pulmonary diseases were increased; one mentions gastritis; only one specifies insomnia as a complication. In the practice of one there was a general immunity from other diseases during the latter part of the epidemic. The mention of bronchitis is so usual in all these returns that I omit it.

As to the question of sex or exposure in the open air, two correlated factors as it seems to me elsewhere, it is difficult to draw any definite conclusions from the medical returns of Suffolk; but it is pretty evident that pneumonia was increased.

ESSEX COUNTY.

Extending along the coast and immediately to the north of Suffolk, I take up Essex County next.

I have tabulated 16 returns from manufacturing companies, etc., in this county, and 21 medical returns from 14 different towns.

A Lynn shoe shop (the only one reporting on account of the fire), with 210 employees, reports its first case January 1st, and its maximum week the second in January; the first case at the Lynn Bank was December 28th.

From Beverly, two shoe shops, each employing about 300 men, report. One says its first case was "about November," its maximum week the second of December, 90% of the employees were affected and 75% were absent an average of ten days. The other reports its first case December 20th, its maximum January 1st, 50% were attacked and absent an average of four days. These shops are very near each other, and it is impossible to reconcile the two statements unless we explain the first by a "strike" rather than by influenza.

From Salem, a Bank reports its first case December 21st; five out of six were affected; but the Naumkeag Cotton Mills of Salem, with 1,078 employees, reports the first case "about January 1st," the maximum week January 4th to 11th, 40% attacked, 13% absent an average of five days. The Ipswich Cotton Mills, 522 hands, same date for the first case, January 11th to 18th for the maximum. Two mills at Newburyport, employing together 580 hands, report first cases January 3d and 4th, maximum weeks January 4th to 11th and the second week of January, 25% and 43% of affected and absent an average of seven days.

A Haverhill shoe shop, with 400 employees, reports its first case December 20th, its maximum week December 28th to January 4th, 75% affected, 25% absent. From Lawrence there are two returns. Of the Great Pacific Mills, with 4,336 employees, very full, accurate and reliable returns may be found in the *Boston Medical and Surgical Journal*, Vol. CXXII, p. 251, to which reference will be made later.

The first case at the Pacific Mills occurred December 24th, the maximum week was January 4th to 11th, 40% were affected and absent an average of 6½ days, females were the most and the more seriously affected.

The Pemberton Cotton Mills of Lawrence, with 676 employees, report the first case December 17th, the maximum week January 4th to 11th, 41% were affected (lost time in consequence) and out an average of 5½ days; females were most attacked, 49% of the females and only 29% of the males. The report from this mill is also apparently accurate and reliable, and agrees in the main with the Pacific report.

A linen mill at Andover, 308 employees, reports first case December 14th, maximum week second week of January, 41% attacked, 38% out. A machine shop at North Andover, 421 hands, all males, December 25th, January 5th to 12th, 40% attacked and out five days.

Medical Returns. — One return from a coast town (Newburyport) and one from an interior town (North Andover) date the first case December 1st; but the return from Andover, next to North Andover, dates the first case December 21st, and gives the maximum week as the second week of January, and the other return from Newburyport names January 1st to 15th as the maximum period, so that these early cases may be considered sporadic, as similar ones have been in other counties.

The latest returns of first cases are from Marblehead

and Manchester on the coast and Methuen in the interior, all January 1st; the maximum week at Methuen is given as the third in January, at Manchester, January 5th to 11th.

Lynn returns December 15th; Peabody, December 10th, with a maximum in the second week in January; Danvers, one return December 15th, one December 25th, with the third and second weeks of January as maximum weeks respectively; Gloucester, December 18th and 24th, both returns naming January 5th to 11th as a maximum week; Haverhill, December 20th and 28th, with the first and second weeks of January respectively as maximum weeks.

West Newburyport next to Newburyport, gives December 16th as the date of the first case.

Lawrence, December 20th, 21st and 23d, with the first week of January as a maximum week for the first two, and January 7th to 21st for the third return.

Georgetown, in the northwestern corner of the county, gives December 16th as the date of its first case, and the middle of January as the maximum period.

The percentages of population attacked range from 80% in Marblehead to 5% from one return from Haverhill, the other return from Haverhill, giving 23%. One return from Danvers give 60%, the other 10%; one return from Lawrence gives 50%, one 25% and one 12%. The return from Andover says 50%, that from North Andover 15%. The average of twenty returns 38%.

Sex. — Eleven returns specify the male sex in answer to question 5; three returns say females, but in one of these the practice is among females.

Other Diseases. — Eleven returns state that pneumonia was increased, three specify catarrhal and one croupous pneumonia. Four state that pulmonary diseases were increased. Two mention gastro-intestinal disorders as complications. A medical examiner reports two deaths without treatment, "probably from congestive pneumonia." One return from Lawrence states that influenza "drove out" diphtheria which had been prevalent.

MIDDLESEX COUNTY.

This county, lying next to Essex and Suffolk, brings us back from the northern border of the State to the neighborhood of Boston. It is almost wholly an interior county, and, except for a small though thickly-populated territory around Boston, we take leave of the immediate influence of the sea. It is a manufacturing population. I have tabulated 27 returns from factories, banks, machine shops, etc.

From Lowell, in the northern part of the county, seven returns cover nearly 9,000 employees. The Lowell Cotton Mills, with 1,736 employees, report the earliest first case December 20th, with a maximum week the same as that in Boston, namely, December 28th to January 4th. The Merrimac Woollen Mills report the latest first case January 10th, with a maximum week the second week of January; there are three first cases December 26th; one, December 30th; two, January 1st; four mills give the second week of January as the maximum week, two mills January 4th to 11th, one and the Bank (only five employees) December 28th to January 4th.

The percentages of the affected and absent, at the mills in Lowell, varied very much, according to these returns, from "nearly every one" affected, and 50% absent an average of four days at the Merrimac Cotton

Mills and Print Works, to 10% affected and 8% absent an average of four days at the Merrimac Woollen Mills. The favorable return, if accurate, from the Merrimac Woollen Mills was probably due to something other than wool, for the Middlesex Woollen Mills report 50% affected and 20% absent an average of five days.

The different departments of the same mills were as differently affected as the different mills. To this point I shall revert again later. Five days was about the average of absence from work.

Sex. — As far as the Lowell returns offer any reliable information upon that point, the female sex was the most affected. Careful calculations from the Merrimac Cotton, with 3,200 employees, in answer to a special request, show that influenza "was more prevalent among women and boys than among men."

The Pepperell Cotton Mills, 316 employees, in the northwestern corner of the county and somewhat off the main line of travel, though with railroad connection, report the first case January 9th, and the maximum week the third week of January.

The North Billerica Cotton Mills, nearer Boston than Lowell and on the main line of travel, with 265 employees, report the first case "about January 1st," and the maximum week the third week in January. Next to the south, a tannery at South Woburn, 180 employees, has its first case October 4th, its maximum week the second week in October, 6% attacked and 5% absent an average of thirteen days — evidently a local predecessor of the great epidemic for a Winchester factory a few miles away and still nearer Boston, reports its first case December 26th, its maximum week the first week of January. The Malden Rubber Shoe Company, 1,255 employees, with dates agreeing pretty closely with those previously recorded in Suffolk County, had only 15% attacked and 12% absent an average of five days. The returns from manufacturers in Cambridge, Watertown, Waltham, Newton, covering 4,200 employees, vary but little from those given for Suffolk County, but the first cases are a few days later and the maximum weeks a few days later. The Nonantum Worsted Company at Newton, 520 employees, reports its first case December 30th, its maximum week January 4th to 11th, 17% of affected and absent an average of five days.

The Waltham Watch Works, 2,300 employees, reports males as most affected. Returns from two shoe shops at Marlborough, 1,100 employees, report first cases December 22d and 26th, and the maximum week the first week of January and January 4th to 11th; from woolen mills at Maynard, 886 employees, the first case was December 20th, and the maximum week January 4th to 11th; Marlborough and Maynard are in the western part of the Middlesex near the Worcester line.

Medical Returns. — I have tabulated 26 medical returns from this county. Beginning again with Lowell, near the northern line, there are two returns, one placing the first case December 10th, and the maximum week the second week of January; the other, December 21st. Billerica returns the first case December 12th, and the maximum week the second week of January; from Ayer in the northwest, near the Worcester County line, the medical examiner of the district, Dr. Hartwell, returns the first case as December 21st, and the maximum week the second week in January. He writes: "I go into four or five

adjoining towns. Ayer is a large railroad centre. The epidemic began here and reached its height from one to two weeks earlier than in places off the line of travel, and, as far as my observation goes, affected a larger number of the inhabitants.

"The only case I saw as medical examiner was one in Pepperell, said by the neighbors and thought by selectmen to have died from influenza, but proved, on examination, to have died of acute alcoholism."

Returns from towns around Boston — Somerville, Medford, Melrose, Arlington, Cambridge, Waltham, Lexington, Concord, Newtonville, Newton — though varying considerably in the dates of first cases, and still more so in different returns for the same towns (Cambridge, for instance, returning November 15th, 24th, December 1st, 23d, as dates of the first case), agree on the average with the Boston returns, as do those also of the date of the maximum week. Returns from Framingham and Hopkinton, in the southwestern corner of the county, agree as to dates with those from Boston.

The percentage of the affected varies from 75% in five returns to 10% in two returns. It also varies within these same limits for different returns from the same place. The return of the medical examiner, resident at Somerville, estimated 75% of the population attacked; another return from Somerville names 10% as proportion. The average percentage of twenty-four returns tabulated is 44%.

Sex. — Fifteen returns specify the male sex as suffering either most numerously or most severely. Of these, one reads: "Males who were most exposed to weather and hard work"; one return says: "In numbers, females suffered more; in severity, sexes alike"; one return says: "More cases among females, more complications among males"; one return says: "Females more frequently attacked, in the proportion of 3:2.

Other Diseases. — Eleven returns state that pneumonia was increased, and eight that pulmonary diseases were increased; one return states that there was less pneumonia than usual; one reply, affirming an increase of pneumonia, expresses doubt whether "the pneumonia had any direct connection with the influenza, or whether it was an independent disease attacking those already debilitated"; and another reply is accompanied by this comment: "Most cases of so-called pneumonia following influenza are in reality cases of congestion, not croupous pneumonia." Another return states: "No diarrhoea, no constipation, no diseases increased in frequency or severity."

A member of the Board of Health of Lowell writes: "Scarlet fever, which had been rapidly increasing for four weeks, with the first week in January (the maximum week of influenza), suddenly decreased, and the same is true of diphtheria, though in a less degree." This coincides with a return from Lawrence previously alluded to.

(To be continued.)

— The *Medical Record* says that seventeen fatal cases of poisoning from antipyrine occurred in one week in Vienna during the prevalence of the influenza. In many of these cases the drug was bought by the victims themselves without a physician's prescription; but, partly in consequence of these fatalities, it is now illegal to sell antipyrene except upon a written prescription from a physician.

Original Articles.

COLLES' FRACTURE WITH ESPECIAL REFERENCE TO TREATMENT.¹

BY E. C. HUSE, M.D., GEORGETOWN, MASS.

At the risk of being accused of pedantry, I invite your attention to the above subject, hoping in the course of the discussion of the topic to elicit some new facts from my brethren, while at the same time contributing my experience in a number of cases occurring in twenty-four years of country practice.

With one exception, the clavicle, no bone is more frequently fractured than the lower end of the radius; according to Stimson, occurring more frequently in elderly women. Mentioned first by Poteau about the year 1783, it failed to attract much notice until 1814, when Richard Colles succinctly and accurately described it, and with that degree of success that the title "Colles' fracture" has come down to us as a distinctive appellation, and serves as a monument to mark the wisdom and the genius of a great man.

Probably the difficulty of thoroughly understanding the pathological condition of the parts arises from infrequent opportunities for dissection. I may here remark that Professor Morton, of Philadelphia, has, since this was written, January, 1890, dissected and reported a typical case, in which the lower fragment with the hand was to be plainly seen overriding the upper extremity.

Certainly the fact exists that in times past many cases have been considered dislocations of the wrist, and, in consequence thereof, have been subjected to severe and unnecessary force for the reduction of the same, to the great detriment of the tendons and the large nerve trunks lying in close relation to the broken ends, the result being a far worse condition of affairs if left alone, and in the same unreduced condition they were actually and finally left.

Even as late as the year 1821, Sir Astley Cooper, one of our great surgical lights, evidently confounded it with dislocation of the wrist, and thought that powerful extension would restore the parts to their normal condition; and not until 1830 did Dupuytren assert and maintain the fact of the existence of such a fracture, both evidently unaware of the discovery of Colles.

Early in professional life, I chanced to see a marked case of Colles' fracture entirely unrecognized and consequently left unreduced, incurring great misfortune to the patient and no little discredit to a valued member of "Essex North." Not many years after, another worthy member was severely maimed in damages for the same sin. These to me, then quite young, were of the nature of night-riding incubi and full of warning. Added to these are the unfortunate results in three cases of my own; the whole serving as a stimulus to inquire as to the factors entering into success or the converse.

Rarely, does the average doctor nowadays make a faulty diagnosis, the surgical landmarks being so well established that the fairly booked man has no trouble in making his diagnosis at a glance. The cause is almost universally conceded to be a fall upon the hand, causing extension or hyperextension. The weight and momentum of the body being suddenly thrown upon the ball of the thumb, which is firmly

¹ Read before the Essex North District Medical Society.

articulated with the trapezium and this in turn with the scaphoid bone which forms the chief part of the radio-carpal joint, transmits the whole force to the radius. Now a glance at the anatomy shows that the radius alone enters into the articulation and a still closer view shows that the bone is not in its entirety perpendicular to the blow, which, therefore, renders it less able to resist with integrity to its structure. The combined forces of the blow being transmitted at an angle to its perpendicular gives a cross strain which divulses, so to speak, the head from the shaft. The pronator quadratus being thus unopposed and probably injured by the fragments tends to draw the shaft toward the "flexors" and laterally toward the ulna, allowing the lower fragment to ride upon the upper, hence the resemblance to a "silver fork." Now the ulna is about the same length as its fellow, the radius, and, while the latter is shortened by overriding or displacement, itself is forced out laterally and downward by the force and weight of the body, causing the characteristic deformity on the ulnar side; and if the anterior and posterior radio-ulnar ligaments are separated, then the escape of the bone from its articulation with the radius is still more marked.

With these causes entering into a typical case of Colles' fracture, it may well give the practitioner opportunity for study and occasion for solicitude as to its outcome. With a case well diagnosed, treatment is, of course, the immediate sequence, and that has many and varied authorities. Stimson, as well as others, considers that in this fracture especially thorough reduction is essential to success.

This might equally well be said of all fractures. But there seems in times past, if not in the present, to have been many obstacles in the way, judging from results in cases seen by the writer. One of the greatest hindrances to the reduction of the parts is their extreme hyperesthesia; in fact, pain is one of the most constant factors in making the diagnosis. This renders the muscular spasm almost irresistible, and to my mind goes far towards making up the frequent diagnosis of impaction. At any rate, it is a fruitful source of the violent extension and rough usage to which many wrists are submitted, and which are so deprecated by all authorities.

To avoid these causes, fruitful of disaster alike to doctor and patient, anesthesia is of the greatest advantage. To speak from experience, my worst results were, in every case, put up without; two of them, however, apparently being so little displaced that I deemed it quite possible to restore them *in situ* without the use of ether. These cases were all in females, which are, according to one authority at least, the most prone to bad results. Given then, a fracture of the wrist, presumably of the radius, *ergo* a Colles', the *sine qua non* is complete anesthesia. After that is accomplished, it is surprising to see how a supposed impaction turns out to be muscular spasm; and where before the strongest kind of extension failed, now the weight of the hand almost suffices to restore the parts to position. And I know that in one case, merely grasping the hand as in hand-shake, the extension not being noticeable, served to perfectly set the bones and they remained fixed. Finally, if the radius is left shortened, or in other words, left unreduced, just so much is the ulna longer, and the hand is drawn back to the radial side, leaving the styloid process of the ulna out of line with the side of the hand, so that it

is not so much a dislocation of the ulna, as of the hand towards the radial side of the arm, away from the ulnar.

As to the retention of the fracture many authors have sought out many devices, each one striving to carry out in his splint, the principle which avoids the characteristic deformity. Perhaps the most familiar are Boud's and Dupuytren's, both of which tend to draw the hand to the ulnar side with a view that in so doing the tendency of the ulna to protrude would be avoided, at the same time keeping up extension on the radial side, which was necessary, in their opinion, to counteract overriding. Other splints looking more at the anatomical shape of the radius, as Carr's and Lewis', have, in later years, received favor at the hand of the profession; the former, Carr's, is probably the development of the shingle and piece of broomstick. Carr seems to have seen the need of support to the upper part of the radius which curves to quite a degree, and which in the ordinary flat splint is left quite unsupported, however well it may be padded. It is well-known and is much in use at the present time, it retains the parts well, but requires pretty frequent supervision; it has done much, however, towards lessening the number of deformities.

Within a few years, Dr. Lewis, of Philadelphia, has offered to the profession an anatomical, metallic splint, perforated with many holes, these perforations opening from within outward, serving to retain the bandages and at the same time contributing to lightness. When lined with a layer of wadding, or two or three thicknesses of old muslin, they are wonderfully comfortable, and from their conformity to the shape of the limb, they give the doctor and the patient more of a feeling of security than any other contrivance. This is no small item when one lives at a great distance from the patient, as the writer can speak from experience in a case happening last winter.

If, then, the fracture is well reduced there are several splints that may be of service, but to the writer the Lewis is of great value for reasons before mentioned. Freedom of the fingers is insisted on by many writers. This seems to me to depend upon the ability of each patient to move them, varying according to the amount of inflammation incident to each injury. The Lewis certainly allows as much of this as any, and, if support for the fingers is needed, this splint is extremely grateful. The amount of the time essential to union is about thirty days; in one case of my own, however, shortening and marked deformity began about the fifth week, going to the extent beyond the original displacement; whether it was not reduced, as before hinted, or from absorption, is an open question.

Since finishing this article, I have visited my two last cases, and find that consolidation was not complete at the end of five weeks in one, as evidenced by the gradual shortening of the radius and a consequent extension of the ulnar. This was one of the cases which was unsatisfactory, being reduced without ether. The other case occurring at the same time in a female of sixty-two, with far greater displacement, is as fine a result as one could desire. This was reduced with ether.

Within a short time, I have seen another case which I had the good fortune to see at the first, but did not reduce, it having been attended by one of the oldest members of "Essex North." I suggested

at the time, as he was quite muscular and there was much displacement, that he should not have it set without ether, but his surgeon said there was no call for it.

This was three years ago. These is now protrusion of the ulna, great weakness of the wrist, with much difficulty of pronation; the most of which, I venture to say, would have been avoided, had reduction under ether been attempted. According to the patient's statement, much violence was used, while only partial success was obtained, as the result shows.

RÉSUMÉ.

Colles' fracture is a dislocation of the head of the radius from its shaft.

The deformity arises from the overlapping of the fragments, the consequent shortening of the radius and the dislocation of the ulna from its fellowship with the radius. Complete reduction is the only cure against deformity. This is much more easily accomplished and far better results are obtained with anesthesia.

Many cases are considered to be impaction simply because of extreme muscular contraction, and consequently left unreduced where complete anesthesia would clear up the whole matter and bring about satisfactory results.

A CASE OF MALIGNANT ENDOCARDITIS SECONDARY TO COLITIS: REMARKS.¹

BY FREDERICK C. SHATTUCK, M.D.,
Jackson Professor of Clinical Medicine, Harvard University; Visiting Physician to the Massachusetts General Hospital, etc.

A MAN, thirty-four years old, a cook, of good family and previous history, was admitted to my ward December 5, 1889. Four weeks before entrance, without known exciting cause, his bowels became loose, moving sometimes eight or nine times daily without pain or tenesmus. A small amount of blood was noticed on the toilet paper, and at the end of a week he first inspected the dejections. He then found that he was passing at times fresh blood without clots, the maximum amount of blood being estimated by him at six ounces. The frequency and character of the discharges remained about the same until a few days before entrance, when they became less frequent and less bloody. The day of entrance he passed, for the first time since the onset of the intestinal affection, a semi-solid motion. He remained at his work until ten days before entrance, when pain, swelling and tenderness in the shoulders and right hip came on with malaise, and compelled him to take to his bed.

At entrance to the hospital the pulse was 100, respiration 24, temperature 101.4°. Physical examination of the internal viscera was absolutely negative, except that the first sound of the heart struck me as rather sharp and valvular. The shoulders and the right hip were painful, especially on motion, and tender; the former were somewhat swollen. Under treatment, the articular inflammation gradually subsided, the right ankle, however, becoming involved; the intestinal symptoms also abated, and within ten days the motions became perfectly normal in every respect, remaining so until death.

The heart was carefully examined every day, and on the eighth day after entrance, a faint, soft, systolic

murmur was heard, limited to a small area over the fourth left costal cartilages. Later, this murmur increased somewhat in intensity and in the area over which it was audible, but never became very loud or diffused; it was never as loud at the apex as midway between that point and the base. No cardiac enlargement was detected, and no further murmurs were developed.

December 12th, the seventh day after entrance, the patient called attention to a "boil" on the inner aspect of his right leg, rather nearer the ankle than the knee. This proved, on examination, to be an abscess, somewhat raised above the surface, with but little surrounding inflammation, darkish in color, with undermined edges. Incision was followed by the escape of about two ounces of pus. A similar abscess was found over mid-sternum, and was also opened. The next day another abscess was found over the seventh rib in the left posterior axillary line. Subsequently two more appeared, one on the left leg, the other on the left great toe. The skin over the abscesses sloughed, and the ulcers spread more or less in spite of the most careful dressing. The tissues about the abscess on the right leg, the first to attract attention, underwent rapid necrosis, and it was daily necessary to trim off an edge at least a quarter of an inch wide.

By December 28th, the ulcerated surface completely encircled the leg, but the general condition of the patient was better, the appetite and digestion were good, he read and played cards. The smaller ulcers were healing, and early in January, 1890, were completely cicatrized. The large ulcer also made rapid progress toward recovery, and was nearly closed at the time of death.

Early in January tympanitic distension of the upper abdominal segment first appeared without tenderness and persisted, gradually though very slowly increasing to the end; but the digestion remained good, and large quantities of nourishment were taken without inconvenience almost to the last. The heart grew weaker, a small bed-sore formed over the sacrum, finally vomiting occurred, and became persistent; nutrient enemas were not retained; the dejections were somewhat loose, but normal in color and free from any gross abnormal constituent.

January 14th, at 2 a.m., he died.

Two or three weeks before death, Dr. Henry Jackson, at my request, was kind enough to make culture experiments with both the blood and the contents of one of the abscesses, which was opened at the time and for the purpose. The most approved methods were adopted and carefully carried out, but all the culture experiments were negative.

Summary. — A vigorous man in the prime of life is taken with the symptoms of intestinal ulceration, probably seated in the colon. After two to three weeks, a polyarthritis, apparently rheumatic, appears. The symptoms of the former soon disappear completely, those of the latter subside. Fever, however, persists; a systolic murmur appears and gradually grows more distinct, but is never as loud over the mitral or basic valves as between them; multiple superficial abscesses form and spread for a time with great rapidity, but ultimately heal; tympanitic distension comes on in the region of the transverse colon; death occurs from exhaustion six weeks after entrance to the hospital, ten weeks after the first symptom indicative of disease.

Clinical Diagnosis. — Malignant endocarditis, prob-

¹ Read before the Boston Society for Medical Improvement, April 28, 1890.

ably originating in the colon, causing multiple cutaneous embolism.

Autopsy. — Eighteen hours after death by Dr. Fitz. Head not opened. Several red patches on the skin, the recent ulcerations described above. Abdomen tympanic and distended. The pericardium contained two ounces of clear, yellow fluid. The heart was normal in size, the right side distended with clotted blood. The aortic and pulmonic orifices were sufficient by the hydrostatic test. The mitral and tricuspid orifices admitted respectively two and three finger tips. The aortic crescents in the vicinity of the corpora aurantii were fringed with small vegetations along the line of apposition, to which small red clots were adherent. The mitral leaflets showed a similar fringe. The muscular substance was an opaque red-gray in color. The lungs, pleura, spleen, liver, bladder and small intestine were sufficiently normal. The kidneys were normal in size and shape; the capsule was slightly more adherent than usual; on section the cortex was rather opaque. The transverse colon and sigmoid flexure were both adherent to the abdominal wall and adjacent coils of small intestine by fibrous adhesions, which were separated with difficulty. The entire colon from the hepatic flexure to the rectum showed extensive ulceration of the mucous membrane, leaving trabeculated and polypoid masses of relatively normal membrane. In places the ulcers reached the peritoneal tissue. The transverse colon was considerably dilated, and contained semi-solid faeces.

Pathological Diagnosis. — Acute verrucous endocarditis; chronic ulcerative colitis and pseudo-polyp.

Malignant endocarditis may well be characterized as multiform as regards symptoms. At this we are the less surprised when we consider that in the decided majority of cases it is a secondary or associated condition, rather than an independent disease; and may, consequently, be overshadowed by symptoms and signs referable to other organs and parts. In a certain proportion of cases, any positive diagnosis is impossible during life; in a second category, there may be strong grounds for suspecting this form of endocarditis; in a third class, a diagnosis, nearly as certain as we can ever make, is to be reached. In simple endocarditis the diagnosis rests almost invariably on cardiac signs; in malignant endocarditis these may be absent or ill-defined, and the diagnosis always requires and often rests mainly on symptoms which are either exclusively general, or local, and more or less widely distant from the heart itself. In this case, the multiple infectious embolism was the diagnostic sign. It should be remembered that malignant endocarditis is not infrequently connected with pneumonia; that it may closely simulate acute mania and meningitis — even the cerebro-spinal form of the latter — typhoid fever, even ague, and pyæmia, of which it is to be regarded in some cases as a part or form; that valves already the seat of a benign and more or less ancient inflammation are sometimes secondarily attacked by the malignant process. Of the latter, Dr. Stedman's case is a good example. The case above reported is the fourth in which I have made a positive diagnosis of malignant endocarditis during life, with post-mortem confirmation in three. In one, seen with Dr. Humphrey of Lawrence who had already made the diagnosis, valvular damage had resulted from an old attack of rheumatic fever; the symptoms were distinctive enough and I am morally sure that the diagnosis was correct,

though there was no post-mortem. In another case, the affection was apparently primary. I have seen other fatal cases in which I thought malignant endocarditis probable; in one patient, who recovered, the diagnosis was doubtful as between malignant endocarditis and aberrant typhoid fever. The strongest point in favor of the latter was, to my mind, the fact of recovery. Most writers assert that malignant endocarditis is uniformly fatal, a view to which it does not seem to me wise to yield unquestioned adherence. We are by no means sure that the benign and malignant forms of endocarditis differ in kind; there are, indeed, reasons for thinking that the difference is chiefly one of degree. A pathological distinction cannot be based on the result alone.

The features of this case which appear to me specially noteworthy are the following:

In the first place, the lesson is enforced that, as Dr. Osler suggested, the adjective malignant is more applicable to these cases than is the term ulcerative. The endocardium was nowhere ulcerated in this case, the heart, taken by itself, showing to the naked eye only changes such as might be found in any recent and fairly well-marked case of warty endocarditis.

Secondly, the strict limitation of embolism to cutaneous vessels is remarkable. The autopsy did not reveal the slightest trace of any embolic process in the internal viscera.

Thirdly, the condition of the colon at the autopsy was remarkable, not only as presenting a rare pathological specimen, but also in that all symptoms indicating intestinal disease subsided soon after entrance to the hospital. Later, marked distension of the colon came on, but the movements of the bowels remained natural to the end. I supposed during life that the distension was due in some manner to embolism of the bowels, a supposition which turned out to be incorrect.

Finally, the failure to find bacteria, even in the contents of one of the abscesses, seems worthy of note. A similar want of result of success with the blood of the patient has attended the efforts of most other observers.²

Dr. Stedman's case, which I saw twice through his kindness, offers some points of sharp contrast with mine. The clinical course was that of pyæmia, certainly as far as the temperature went, and the source of the pyæmia was referred to the heart by exclusion. The diagnosis was helped by the existence of old aortic disease and articular symptoms which preceded and accompanied the early stage of the fatal malady. A point of great interest is that these articular symptoms were again preceded by urethritis, and the case might have been classed as one of gonorrhœal synovitis were it not for subsequent developments. Embolism was absent, because no fragments were detached from the aortic valves, and also because the abscess in the heart wall had certainly no free communication with the arterial system. Its exact condition was impossible to determine on account of the preservative fluid used by the undertakers.

In making our diagnosis at the first consultation, we attached some importance to one sign which the autopsy showed to be misleading. A systolic mitral murmur had recently been superadded to the aortic

² Girode (*Comp. Rend. de Soc. de Biol.*, 1889, p. 629) found basilli, which he was able to cultivate, in blood drawn from the arm of a patient with malignant endocarditis a few moments before death.

regurgitant, and we were inclined to think that this, under the circumstances, indicated the probable implication of the mitral valve in a recent endocarditis. The autopsy showed that the mitral valve was intact. The murmur was consequently dynamic. The lesson is thus again enforced that great caution must be exercised in the interpretation of systolic apex murmurs during pyrexia or in conditions of cardiac debility. The former was present at the time of the first consultation, but the heart was acting with perfect regularity and apparently sufficient force, eighty-four beats to the minute. In this case again the chief diagnostic sign was outside of the heart, namely, the irregular rigors. Add to this the presence of an old endocarditis, or rather its remains, and the diagnosis was practically certain.

NOTE. — Since the above case was reported, the writer has seen a number of times, with Dr. Garland of Boston, another well-marked case of fatal malignant endocarditis originating in gonorrhœa.

OBSERVATIONS ON A CASE OF PERITYPHILITIS.¹

BY JOHN HOMANS, 2ND, M.D.

A. B. was a large stout man, of great physical strength and vigorous appetite, who led an exceptionally active and busy life. Some fourteen years before his death he was seized with a violent pain in the right iliac region, accompanied with some diarrhoea and the presence of a small, hard painful swelling situated on a level with, but towards the umbilicus from the right anterior superior spine of ilium. Owing to the extreme deposit of fat on the abdominal walls it was difficult to ascertain the exact size of the tumor which, however, seemed to be about as large as the palm of a boy's hand, with a sharp upper outline, and impressed the observer, Dr. John Homans, as being a sort of cake of inflammatory material. There was little or no fever, the acute pain lasted some five or six days and then gradually subsided, the swelling slowly disappearing as the pain grew less.

From this time on the patient had several attacks, some five or six in number, of the same nature as that just described, save that they grew more severe and that the inflammatory cake increased in size till in the last attack in which I observed him it extended nearly to the umbilicus, and seemed to run under the edge of the floating ribs, the well-defined outline before described no longer existing. Whether this cake persisted in the intervals of the attacks it was impossible to say; but the patient suffered occasionally from diarrhoea which would last a few days, and was always accompanied by pain in the right groin.

During the last few years of the patient's life he met with one or two quite severe accidents, and contracted a specific infection, which, however, troubled him little after the earlier secondary symptoms. His final illness was a most severe attack of jaundice, the discolouration and itching of the skin being extreme, and the mental depression, languor, headache and all the other well-known cholemic discomforts were present in a marked degree. His strength was gradually undermined and he died rather suddenly at last, having been sick about six weeks.

¹ Read before the Boston Society for Medical Improvement, April 28, 1880.

The autopsy (for notes of which I am indebted to Dr. Morris Longstreth of Philadelphia) showed nothing remarkable save the results of the intense cholera till the abdominal cavity was opened.

The omentum was rolled up and adherent to the border of the liver at the fissure of the gall-bladder, on the right side over the region of the caput colli the peritoneum of the anterior abdominal wall was thickened and rough and a portion of the omentum was still adherent, the result of former inflammation. Around the caput colli and ileum were numerous old adhesions and bands, and the appendix was concealed from view by the mass of old inflammatory structures. It did not present any appearances of ulceration or perforation.

Stomach, liver and duodenum removed *en masse*. The latter was drawn up close under the liver, and the tissues surrounding the common bile-duct from beginning to end were greatly increased. They presented themselves as a mass measuring over two inches in cross-section. A considerable portion of this mass was composed of fat and several lymphatic glands held in very dense connective tissue, much firmer than usual in this situation. The opening of the common bile-duct on the surface of the duodenum could be detected by the eye and was not eroded or ulcerated. A probe passed up the common duct entered easily into the hepatic duct and into the liver, but could not be made to enter the cystic duct. The gall-bladder was found in the midst of the adherent omentum and mass of connective tissue described above, and presented itself as a yellowish-white body of less circumference than the little finger one and one-half inches in length, the fundus being about two inches from the border of the liver; on section no fluid ran. Cavity contained perhaps twenty gall-stones, one the size of a small pea, but mostly about the size of head of an old-fashioned brass pin. These were imbedded in a yellowish gelatinous mucus. Probe passed from the gall-bladder towards the cystic duct failed to enter, and dissection showed that the duct was closed and converted into a fibrous cord surrounded by the mass of connective tissue around the common duct. The liver on section presented a pretty uniform appearance save for some slight evidences of fatty degeneration. The interacinar connective tissue was not increased. The portal veins were normal. The other abdominal organs presented nothing remarkable.

In this case, then, there existed for many years about the caput colli a nodule of inflammation which, after irregular periods of torpidity, would suddenly become active, giving rise to the attacks described above, extending its limits with each successive attack, forming adhesions, causing an increase in connective tissue, till finally the structures thus formed by inflammatory action seized upon the gall-bladder and duct and death followed.

It is interesting to consider whether the result of this case would have been different if the operation recommended by Treves had been performed and the appendix removed in the intervals of the attacks.

Against the sanction of Treves's operation in any case, I think there are two strong arguments, the first of which applies with equal force to Tait's procedure of catheterizing the appendix and pressing back the foreign body, if any exist, into the cæcum. These arguments are, first, the difficulty of finding the appen-

dix; second, a doubt whether the mere removal of the appendix will insure cessation of the attacks.

It is by no means an easy thing to find the appendix in a fulminating case, when the adhesions are recent and easily broken down and the anatomical relations of the parts not much disturbed, but in this case, for instance, with the old, tough adhesions masking the site of operation, the surgical procedure would have been more or less blind and the discovery of the appendix almost more a matter of chance than skill, involving an amount of handling and general turning over of the intestines which would have materially affected the chances of recovery. It should be borne in mind also that the appendix is frequently found in abnormal situations by surgeons who are operating during a first attack. Thus it has been found in the median line, or near the umbilicus. I have discovered it at autopsy hanging down in the pelvis, bathed in pus and nearly touching the rectum, and Dr. G. H. Monks, in a recently reported case, removed the appendix from tumor of the scrotum.

It is probable that wherever the appendix was carried by the inflammatory process, there or thereabouts it would remain, and its change of position would be so great that the landmarks would be partially obliterated.

Granting, however, that the appendix has been successfully removed, or its calibre occluded by stitching, as Tait recommends, can a positive assurance of freedom from further attacks be given? This question must, I think, be answered at present in the negative. In Treves's and Tait's cases a sufficient time has not yet elapsed to make them of any value, and the case described above, at first sight a most favorable one for the operation, would most probably not have been materially aided as, judging from the autopsy, the appendix does not seem to have played a major rôle in the causation of the trouble after the first attack. Treves' or any operation would have to be done early to be of any especial advantage and at this time patients would not be apt to present themselves, while after three or four attacks the amount of inflammatory structures would be so great and the innervation of the organs so affected that the mere removal of the appendix would not be sufficient to stop the trouble. If, then, a patient recovers from one or two attacks under medical treatment and then seeks relief during the interval through surgical aid, there is a strong probability that the operator by not finding the appendix in its normal surroundings may subject his patient to an operation dangerous because of its length and the resulting shock (to say nothing of a possible hernia through the scar), which operation would not promise any immunity from the disease.

MALIGNANT ENDOCARDITIS; DEATH; AUTOPSY.

BY C. ELLERY STEEDMAN, M.D.

A. B., merchant, aged forty-seven, was subject to rheumatism, and had an acute attack some years ago, which left him with a diastolic murmur under the right clavicle. In August, 1889, he had suffered, as had a brother and sister, from renal calculus. . . . In September, he had arthritis in left elbow and right

¹ Read at the meeting of the Boston Society for Medical Improvement, April 28, 1890.

foot, with considerable pain. The attack was subacute, easily yielded to salicylate of sodium, and lasted ten days. He returned to his counting-house at once, and on the third of October I was desired to see him again. He had had a chill, sweating, and high fever; complained much of the right ankle, of great weakness, headache, constipation, and a little confusion of mind. The temperature was 103.2°, the pulse 90, strong and regular. The murmur continued under the right clavicle. At six the same evening the temperature was 104°; at ten the next forenoon it dropped to 97.6°, with sensation of chilliness. The next day it ranged from 100° to 102.4°; and the following twenty-four hours between 100° and 101°, with amelioration of all symptoms. On the eleventh day of the disease the fluctuations of the mercury were from 99.2° to 103°; and on the thirteenth there was a fall from 104° at noon to 97.5° the next forenoon; in the night of the fifteenth day there was a rigor at 99.6°, and the next morning the thermometer indicated 104.6°. On the thirty-fifth day the temperature ranged between 99.8° and 105.8°, the highest reached. Delirium was first noticed on the sixteenth day, and was more or less present during the sickness; vomiting was infrequent. The tongue was clean and moist till the last week of his life, and his expression did not greatly alter. There was much irritability, little disturbance of vision, no cyanosis. The rheumatic pains disappeared after the first week as do the rachitic pains of typhoid fever.

It was near the end of the first week that a new cardiac murmur was noticed with the systole at the apex; the apex was not easily defined, the area of dulness seemed slightly increased. In the aortic area there was on the twentieth day a slight systolic murmur propagated upwards, a loud diastolic sound downwards; in and about the mitral area was heard an aortic systolic murmur not present when this illness began; a slight crepitus was heard in the middle of both backs. At this date there was no swelling of the abdomen, no spots on the skin; the epigastric and cremasteric reflexes absent; the plantars responsive; answers and questions were prompt and accurate, though the patient seemed apathetic. On the thirty-fourth day he was harassed by cough increased by lying on his side, and without expectoration; his tongue was coated; the liver below the margin of the ribs a little tender, as was the region over the heart; the mind not wholly clear; the jugulars slightly distended; the first sound at the apex and the systolic murmur less distinct; some crepitus in tricuspid area; dulness of left back, with general crepitus, also present in the front to a less degree. On the thirty-fourth day there was an involuntary dejection. From the thirty-fifth to the thirty-ninth day there was a gradual fall of temperature from 105.8° to 97.6°, from which it shot the next day to 103.5°, and then decreased till the forty-fourth day, on which he died.

The autopsy was made twenty-four hours after death, in my unavoidable absence, by Dr. S. Crowell, to whom I am obliged for the following notes. Drs. Benjamin Cushing and F. C. Shattuck were present.

The pleura, pericardium and peritoneum contained some fluid light in color, partly due, doubtless, to the undertaker's operations. Kidneys enlarged, dark in color; one contained numerous uric acid calculi, otherwise normal. Liver enlarged, with nutmeg appearance. Spleen enlarged, dark red, friable; had an old

infarction. The lungs were not adherent to the pleura; no indurations in their substance, air and fluid being squeezed from them. The heart enlarged, the aortic cusps were rather thickened, insufficient, and the seat of numerous warty vegetations, one of which hung freely movable on its pedicle downwards toward the ventricle. This vegetation, in striking against the cavity opposite its attachment, seemed to Dr. Fitz (who studied the specimen later), to have lighted up inflammation, which resulted in a myocarditis and abscess; pus of a dark color, and mixed with a degenerated necrotic tissue, issued from an opening in the ventricular wall; the pus cavity in the heart muscle was over an inch in depth.

I was efficiently aided in this case by the support and counsel of Drs. Cushing and Shattuck.

The patient presented no signs of anything more serious than the ordinary rheumatic endocarditis till the second week. After the first visit the temperature was not remarkable for six days; then it took its flight upwards to 104°, and the systolic murmur was added to the diastolic. The patient's family had suffered a sad experience with typhoid fever, and were impressed with the similarity of the symptoms to those they had been frequently called on to witness. A physician not familiar with the patient's history might have easily been misled about the character of the disease; and the strong, good pulse would have justified a favorable prognosis nearly to the end, had not the condition of the heart (of which there was no complaint or sign except the physical ones) been suspected.

LARGE PAPILLOMATOUS CYST WITH ASCITES; LAPAROTOMY; WOUND OF THE BLADDER WHICH LAY UNUSUALLY HIGH; SUTURE OF IT WITH COMPLETE RECOVERY.¹

BY A. T. CAROT, A.M., M.D.

In June, 1889, I saw Mrs. H. F. H., in consultation with Dr. H. W. Boutwell of Manchester, N. H. The patient was an emaciated woman of fifty-two. Her menses had ceased when she was forty-four, and she had been in apparent good health until one year before my visit, when she noticed that her abdomen was increasing in size. This enlargement was at first more noticed in the right side than in the left. She steadily lost in flesh and strength during the year and the swelling as steadily increased. Six weeks before she came under observation the legs became swollen, and a large protrusion of the vaginal walls became very troublesome. The pressure upward became so great that she suffered greatly from dyspnea and was unable to lie horizontal.

When seen, the abdomen was enormously distended with ascitic fluid, so that examination by palpation was extremely unsatisfactory.

Nothing could be detected in the heart nor in the condition of the urine to account for this accumulation of fluid, and there was nothing in the symptoms to point to the liver as the seat of trouble. In the absence of evidence in any of these directions, it seemed very probable that an abdominal tumor had given rise to, and was now masked by the ascites. This suspicion was strengthened by the patient's observation that the swelling of the abdomen had started in the right side, and had afterwards become general.

¹ Read before the Boston Society for Medical Improvement, April 28, 1890.

With the object of further observation she was sent to the Massachusetts General Hospital.

On June 27, 1889, I tapped the abdomen and drew off sixteen quarts of dark, brownish fluid which contained many blood-cells and some large compound granule cells. After the removal of the fluid, a tumor as large as an adult head came into view, rising up out of the pelvis, and a little to the right of the median line. Portions of this felt elastic, as if cystic in character; but the larger part of it, especially that portion towards the pelvis was quite firm. It was so fixed in the pelvic region that it altered its position but little on change of position.

A strong suspicion of malignancy was entertained, both on account of the physical qualities of the tumor, and from the character of the fluid removed. It was, however, decided to do an exploratory operation and to remove the tumor if it were found possible.

July 5, 1889. Laparotomy was done. The incision was made midway between the pubes and umbilicus. At a distance of four and a half inches above the upper edge of the pubes the incision which was carried straight down through the abdominal wall, opened the bladder, without entering the peritoneum. This opening was closed by an interrupted suture of fine black silk, and then the peritoneum was opened in the upper part of the wound. The tumor, which was very adherent in the pelvis, was peeled out after some difficulty; and there being some persistent oozing of blood from the separated adhesions down in the pelvis, a glass drainage-tube was put in and the abdomen was closed by interrupted silk sutures including the peritoneum.

The tumor was a multilocular cyst, with considerable papillomatous growth in the lower portion. This papilloma had nowhere broken through the cyst wall, nor implicated the peritoneum.

The recovery was uneventful, though somewhat slow on account of the weakness of the patient. The urine was drawn through the catheter for the first week and some irritability was caused by this frequent catheterization. The bladder suture held perfectly, however, and the wound healed by first intention.

This case was interesting for several reasons: The diagnosis was difficult as the tumor could not be felt while the ascites was present, and after the fluid was drawn off, the character of the tumor and its firm adhesion to the pelvic organs made it seem malignant. This suspicion was strengthened by the bloody character of the surrounding fluid. The result of the operation shows the importance of doing laparotomy in all cases in which there is a possibility of doubt as to the kind of tumor or the feasibility of its safe removal.

The position of the bladder in this case was quite exceptional, and led to its being wounded by an incision at a point where there was no reason for anticipating such a danger.

Usually when the bladder is wounded in laparotomy, the injury passes through the peritoneal surface, and after suturing, the adhesive inflammation of the peritoneum greatly promotes the adhesion of the wound. In this case the incision did not go through the peritoneum, but only involved the connective tissue in front of the bladder. It was like the wound made in suprapubic lithotomy, and in these wounds, primary intention is much rarer than in injuries to peritoneal surfaces.

Care was taken in applying the sutures, to include all of the outer layers of the bladder wall, but not to penetrate the mucous membrane.

The accumulation of urine in the bladder was prevented by frequent catheterization, and the ready healing shows that no leakage took place.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

G. G. SEARS, M.D., SECRETARY.

REGULAR MEETING, April 28, 1890, the President, DR. W. L. RICHARDSON, in the chair.

DR. A. T. CABOT showed a

PIECE OF CATHETER

about four inches long, which he had removed from the bladder of a man of seventy. The specimen was interesting as showing how rotten one of these web catheters becomes in the bladder, and how easily they may be cut up and removed with a lithotrite. It must rarely happen that a supra-pubic or other cutting operation is needed for the removal of such a fragment. In this case a stricture of the urethra somewhat complicated matters. This was divulsed as the first step in the operation; and the reporter said that he preferred diversion to urethrotomy in such cases, where he was going to pass the instruments through the urethra afterwards, as he thought diversion left the passage smoother, with less likelihood of there being pockets in which instruments might catch.

Dr. Cabot reported a

A CASE OF SUTURE OF THE BLADDER¹

for a wound made during a laparotomy for a large papillomatous cyst.

DR. J. HOMANS, 2ND, reported

A CASE OF CHRONIC PERITYPHILITIS.²

DR. CABOT: One point which Dr. Homans made is, it seems to me, an important one, and one in which I should differ decidedly from him, that is, that this condition of the appendix which was found at the autopsy showed that the appendix was not the cause of each individual attack. We know from recent cases published in the journals, how even a comparatively short time, a few weeks, after an attack which was evidently caused by the appendix, the appendix has been removed and there has been no ulceration through its wall, and it seemed in a tolerably normal condition, slightly thickened as to its walls, but not otherwise altered. I think the power of reparation is very great in the appendix; and it does not seem to me impossible that the cause of each of these attacks was ulceration of the appendix, which subsequently healed, and that an adhesive inflammation started from this ulceration, and left the cake of tissue which was described.

DR. F. C. SHATTUCK: The reader mentions an intense jaundice, and yet the common duct seems to have been patent. Is there any report as to the cause of that jaundice?

DR. HOMANS: A probe could be passed at the autopsy, but the supposition was that the mass of connective tissue, by the mere force of its pressure, closed it so that the flow of bile was stopped.

¹ See page 83 of the Journal.

² See page 81 of the Journal.

DR. CABOT: In connection with the question of removal of the appendix and the severity of this operation, I should like to report a case I had early in the year, in which, upon removing a malignant tumor of the ovary, the appendix was found buried in the tumor. I first dug out the piece of tumor growing into and upon the appendix, and laid it to one side while I removed the mass of the tumor. Afterwards I tied the appendix off at its junction with the head of the colon, and then inverted and stitched the end so as to bring the serous coats approximately together. In that case, as in many of the other cases of removal of the normal appendix, there was no reaction. The case did perfectly well, and it seemed as if the interference with the appendix had added nothing to the severity of the operation. I think that the removal of the appendix is an operation of comparatively little severity.

DR. HOMANS: My idea was, that as a result of three or four attacks there would be various bands of adhesions, with certain amount of abnormal structures, and that the whole would be in a state of sub-acute inflammation all the time. The mere removal of the appendix will not straighten out those bands. It would be the same thing as a man who has had a severe attack of pleurisy where, the adhesions still remaining, and portions of the lung still compressed perhaps, those adhesions always stay, and he is liable to have another attack: so it seems to me, with the coils of intestine lying round and adhesions going from one to the other, that there is left behind an amount of inflammatory structure of abnormal condition after the appendix has been removed. It does not seem probable that the removal of the appendix will prevent the recurrence of attacks, though it may make them somewhat less likely to occur; yet I should say it would affect the chances of their recurring to a comparatively small extent.

DR. CABOT: Do you think the inflammatory adhesions left there are themselves the source of inflammation subsequently?

DR. HOMANS: The source of pain. They might cause a slight kink in a coil of intestine.

DR. CABOT: I agree to that, but I think the appendix is, with few exceptions, the cause of the recurring attack.

DR. C. E. STEDMAN³ and DR. F. C. SHATTUCK⁴ each reported

A CASE OF MALIGNANT ENDOCARDITIS.

DR. B. CUSHING read a case with autopsy showing how extensively the heart may be diseased without constitutional symptoms.

DR. CABOT: In Dr. Cushing's case the murmur was a very loud systolic one, difficult to locate. We had no stethoscope with us so that we relied upon our ears. That and one other case are the only instances of malignant endocarditis I have seen, and unfortunately in the other one there was no autopsy obtained. I saw the case for my father in his absence and he subsequently took charge of it. The first symptoms were those of bronchitis. On examination I heard a systolic murmur over the aortic valve which lasted a few days and disappeared; never to be reproduced. The patient ran down with rather high temperature, and had, I remember, an abscess over one malleolus

³ See page 82 of the Journal.

⁴ See page 79 of the Journal.

and another on the top of the head, with one or two others at different points under the skin.

DR. BLODGETT: I am reminded by the very interesting cases which have been reported to-night of the first case of this disease of which I have any knowledge as having been reported in this vicinity, which occurred some years ago in the practice of Dr. Grace Wolcott. The patient was a woman about forty years of age, who had had the preliminary symptoms referable to rheumatism, which have been mentioned as preceding very often cases of endocarditis of this character. Dr. Wolcott noticed, soon after, the occurrence of a mitral murmur, which had not heretofore been present, and which increased from day to day for several days. By the kindness of Dr. Wolcott I saw the case in consultation, and we both arrived at the same opinion, that it was a case of progressive endocarditis; and we could account for its peculiar symptom-complex in no other way than by the supposition that acute inflammatory and destructive processes were going on in the heart, producing the murmur which increased from day to day. The patient lived about ten days from the discovery of the cardiac murmur, and death took place from the lesion of the heart, as I remember it, more than from any other ascertainable cause. In this case there was the foudroyant course of the disease, and it was accompanied with symptoms of acute septic infection. No attempts were made to cultivate bacteria. There were frequent chills and symptoms similar to those which would accompany pyæmia in any other part of the body. The heart was removed and presented before the Clinical Section at the time at which the case was reported. The heart presented, as I remember it, a distinct perforation through the substance of the mitral valve, of ulcerative character with ragged edges and the appearance of inflammatory conditions affecting the free edge of the valve, and to some extent, the chordæ tendinae.

I have during the past winter had a case that reminded me of ulcerative endocarditis which has followed another course. A lady of about twenty-two years suffered from the prevailing epidemic in December, but was not confined to her bed. I was called to see her some days subsequently when she had been prostrated by a chill, and I then found the evidences of acute pneumonia confined to the left lower lobe. It ran its course in the ordinary way. On the fifth day a systolic murmur was heard over the base, which I had not been able to detect before, and concerning which no history of previous heart disease was ascertainable. I felt quite certain that if any condition referable to the heart had previously existed it would have been discovered. That murmur increased for a certain number of days and at the end of a fortnight was at its height, remained persistent several weeks and gradually diminished; but during its subsidence there occurred an acute inflammatory process located in the region of the left ovary, and which I thought was connected with the ovary. I made no vaginal examination, but by the application of hot poultices, the administration of anodynes, and by other measures which suggested themselves from time to time as the case progressed, the inflammation finally subsided, the swelling was reduced and the local process became very much better. Following this there developed a typical phlebitis of the left leg, which ran its course in about four weeks, and from which the lady is still suffering.

This case corresponds very well I think with some that have been reported of supposed malignant or perhaps, ulcerative processes of the heart with subsequent inflammatory or septic affections of various parts of the body. It would seem very possible in this case to depend upon a cardiac lesion which had not previously existed, which was present to a certain extent during a considerable interval, and which subsided until its presence could not be detected. Whether that is a case of the character mentioned to-night as among those who recover from this disease I may never be able to ascertain. I present it as a possible case in which the chief symptoms of that rather uncommon disease were present, and it is the only case that has ever come under my personal observation in which recovery has followed.

DR. F. C. SHATTUCK: Patients have been sent to insane asylums as suffering from acute mania whose disease was malignant endocarditis. A very interesting case of this affection in which such a mistake was made was reported by Dr. Truax in the Section of Clinical Medicine at the last meeting of the American Medical Association at Newport. With regard to Dr. Blodgett's case there are two points that strike me: one is the great care that we must exercise in the interpretation of systolic murmurs. A diastolic murmur is on the chances organic, but so many systolic murmurs are dynamic or haemis that I think we have got to be pretty careful about them. This very winter a patient at the hospital — I forget what the disease was — during the last few days of life developed a tremendous to-and-fro murmur over the heart, harsh, rasping. At the autopsy the heart and pericardium both were normal. In Dr. Blodgett's case I suppose he would hardly attribute the swelling of the leg to embolism. Thrombosis would seem to be the more probable cause.

DR. BLODGETT: I considered the first inflammation in that region as probably the cause of the thrombosis of the vein, not an embolism of the artery.

DR. WHITNEY showed a specimen of

OSTEO-CHONDRO-MYXOMA OF THE RIGHT THIGH.

The history is briefly that of a man who, for the last four years, has had a rapidly growing tumor of the upper part of the right thigh; and which, when first seen a short time ago by Dr. S. J. Mixter, was considered inoperable. The foot was everted, and the posterior part of the growth ulcerated and necrotic.

At the autopsy made to-day by Mr. F. B. Mallory, of the Medical School, the head of the bone and acetabulum were found to have been destroyed; but the pelvis itself had not been perforated, and there was no internal metastasis. The bulk of the tumor was made up of soft gelatinous and sago-like looking material, covered by a sort of harder outer shell, in which were plates of bone, the thickest and largest forming a continuous, more or less irregularly flattened outgrowth from the shaft of the femur. Microscopic examination showed this to be made up of a homogeneous ground substance, giving a reaction for mucin. In this were imbedded numerous round, spindle and star-shaped cells anastomosing by long, very fine filaments. In places areas of true cartilage were met interspersed with bone. So that the growth should properly be called an osteo-chondro-myxoma. The starting place is either from the medullary canal or at the point where the head joins the shaft. But at

present it is impossible to say which, as the destruction and new formation of bone have been so extensive.

THE NEW YORK ACADEMY OF MEDICINE.¹

SPINAL SURGERY: A REPORT OF EIGHT CASES.

THE next two cases, Dr. Abbe said, were of unusual interest, as they showed a field in which the extreme nicety of diagnosis does credit to the physicians in charge, and surgical relief follows closely.

CASE V. Extra-dural tubercular tumor of the spine; complete paraplegia; operation; recovery.

The patient, twenty-two years of age, was taken with pain in his back in January, 1888, and admitted to St. Luke's Hospital in March. The spine was flexible, and without deformity, though a very slight fulness was seen in the soft parts to the right of the ninth and tenth dorsal spines. During March the sense of touch was dull in his legs, and the muscular power somewhat weakened. A line of hyperesthesia formed about his waist. Two weeks later he could not stand without support, and he had uncontrollable twitches of the legs, which had become quite anesthetic. He had constant intercostal pain, with girdle pains about the limiting line of disease. Incontinence of urine and feces followed; an active hectic set in, and he rapidly wasted away. During the week before operation he failed so rapidly that death seemed imminent.

On May 26, 1888, Dr. Abbe made a free incision and removed the spines and arches of the eighth, ninth, and tenth dorsal vertebrae. Outside the carious arch of the ninth was a half-ounce of thick pus; but within, and filling the vertebral canal, was a small quantity of inspissated pus and a large amount of dense neoplasm, evidently tubercular. It extended up and down the canal for two and a half inches, and it was thoroughly curetted from the cord by Volkmann's spoon, until sound bleeding tissue was left on every side. The cord was firmly compressed against the anterior wall of the canal. The wound was lightly packed with iodoform gauze, and allowed to granulate; and a plaster jacket was applied over all. The patient made a rapid and complete recovery, and remained perfectly well in every respect for more than a year. Recently, after the confinement of the winter, he has had an abscess form in the cicatrix which had been so long healed, and Dr. Abbe had to curette a sinus remaining from it which led down to the bone. There has been no affection of the cord, however, and he hopes very soon to heal the sinuses, though they have a distinctly tubercular appearance. (This patient was shown.)

CASE VI. Pressure paraplegia from extra-dural sarcoma; operation, with complete removal of the tumor; death on ninth day.

The patient was forty-two years of age. Three years ago, while placing a pedal under a heavy piano, the instrument was let down and pressed heavily on his back, and he suffered pain from this for several days. Six months later, while lifting the corner of a heavy piano, he was caught by an excruciating pain in the back. In January, 1889, he twice jarred his spine severely, and in July of that year he first felt a decided, though not severe, pain in his back at the site of the present trouble. After this, paralysis of the lower part of the body came on, and in October, 1889, he

was seen in consultation by Dr. E. C. Seguin, who made a diagnosis of pressure paralysis and advised early operation. In January, 1890, the patient was brought from his home in Toronto to New York, and placed under the care of Dr. R. F. Weir. Drs. Seguin and Weir found on examination a slight fulness of the eighth dorsal spine, and advised a month or six weeks of orthopedic treatment; hoping that the pressure might be from Pott's disease and that a natural relief of intravertebral pus might put an end to the paraplegia without operation. The treatment adopted was followed by no improvement, and during its continuance he had a fortnight's illness with acute nephritis and a temperature of 102.5°. Dr. Weir having gone to Europe the case was transferred to Dr. Abbe. On March 20th, the day before it was arranged to operate, he had an unaccountable chill, with a temperature of 104°. This attack lasted two weeks before his temperature became normal, and it, as well as the previous one, was probably due to slight septic infection.

On April 16th, Dr. Abbe operated. On removing the arches of the eighth, ninth, and tenth vertebrae and the pedicle of the eighth, a firm dark growth was found to fill the vertebral canal, compressing the cord to the left side and flattening it somewhat forward; so that it represented scarcely more than half its normal bulk. It was readily removed by blunt resection from the dura, which was left with a quite natural appearance. The growth bulged backward between the arches, laterally between the pedicles, which it softened, and forward into the body of the eighth vertebra and at one side into the sub-pleural space; and from all these sites it was removed by Volkmann's spoon. Not a trace of pus suggestive of tubercular caries was anywhere seen. The wound was packed loosely with iodoform gauze. The patient endured the operation very well and was in excellent spirits for four days when hiccup and vomiting set in. He finally became so exhausted by these that he died on the ninth day; death being preceded by delirium. The muscles of the legs began to react to electricity on the fifth day; but no return of sensation or voluntary motion. The tumor was carefully examined by Dr. J. S. Thacher, who found it to be a round-celled sarcoma, without trace of leucocytes, giant cells, or tubercular material.

Dr. Abbe said this case was of special interest as illustrating the differential diagnosis between myelitis of the cord and pressure of the paraplegia of tumor, and he read a letter which he had received from Dr. Seguin relative to that question.

CASE VII. Intractable brachial neuralgia; nerve stretching, amputation, and finally intra-dural division of the sixth, seventh and eighth cervical nerves.

CASE VIII. Intractable brachial neuralgia; intra-dural division of the posterior roots of the sixth, seventh and eighth cervical and first dorsal nerves.

In neither of these cases was the result of the operation very satisfactory, though the pain appeared to be very much less intense and of a different character from that experienced before it. The basis for the operation in question, Dr. Abbe said, was the fact that sensory conduction is isolated in the posterior root, which is easily operated upon within the dura. Experiments recently made by Singer, Horsley and others to study the ascending degeneration after this section in monkeys showed that a speedy and complete degeneration backward into the cord resulted from it. This would give the desired destruction of an inflamed or

¹ Report of Meeting of May 15, 1890. Concluded from page 65 of the Journal.

diseased nerve to its very ultimate fibres. In his two cases there had remained all the anaesthesia obtained at the operation. Pain, however, had apparently recovered, though much milder. There was often simulated pain in those who had acquired the morphine habit; but in these two cases he believed it to be genuine. His conviction was that if all five roots had been cut the chances of recurrence would have been less.

In conclusion, he said that while we were not warranted in taking a sanguinary view of the results of operation, yet surgery, with its possibilities ever looming up, ought not to occupy the ultra-conservative ground of the past in this field. The scope of operative work might never be a large one; but it would probably not be as small as heretofore.

DR. JOHN A. WYETH said that he had been struck with the fact that in all the traumatic cases the seat of trouble was in the vicinity of the eleventh dorsal vertebra, and that this was also true of two traumatic cases of his own. In the surgery of the spine he would suggest the following classification: In the first of two divisions he would place all cases of compression by bone, dividing these into classes; first, those in which the compression was gradual, as in Pott's disease, and, second, those in which there was compression and more or less destruction of the cord from sudden violence. In the second division he would place the cases of compression by tumors, dividing the latter into intra-dural and extra-dural tumors. In our present state of knowledge he believed the cases where there was destruction of a portion of the cord were practically incurable; and this seemed likely to continue to be the case, unless it should become possible to remove the body of a vertebra, and thus enable the surgeon to bring together the healthy portions of the cord situated above and below the part that was destroyed. This was an operation, however, which he should not care to undertake or to witness at the present time. As to tumors of the cord, those which were intra-dural were naturally more dangerous than those outside the cord, and their removal afforded smaller chances of a favorable result.

He then gave an account of the two cases of fracture on which he had himself operated. In the first there was complete recovery, notwithstanding the fact that the patient had been paralyzed for more than two years previously. In the second case the cord was found to be somewhat flattened at the seat of trouble. There was considerable inflammatory lymph binding the cord very firmly to the dura; and the adhesions between the cord and the dura were broken up with the finger. The injury had been received on the 16th of September last, and the operation was performed seventeen days ago. As a result of the operation sensation was immediately recovered down the entire lower extremities. Motion was also restored to the two great toes, but up to the present time the paralysis of motion had been relieved only to this extent. From his own observation and reading he could not doubt but that in many cases of compression, and especially those of traumatic origin, the patients could be restored to usefulness by means of operative interference.

DR. A. P. GERSTER said that an obstacle to the restoration of function in cases in which the spinal marrow was divided was the area of cicatrical tissue lying between the separated ends. He did not know whether or not experiments had been made on animals to find out whether, if the divided ends could be united

the function would reappear; but, from the experience met with in the case of divided nerves, it seemed probable that it would. The matter was certainly worthy of investigation, and even desperate operative measures he thought were justifiable in such cases, on account of their hopeless character. The technical difficulties of bringing together the divided ends of the cord could no doubt be overcome by practising the procedure on the cadaver. Furthermore, he did not see why the extreme measure referred to by Dr. Wyeth, of removing an entire vertebra, should not be resorted to under certain conditions. If he thought such an operation would enable him to restore the functions of the lower portion of the cord he would not hesitate to perform it, provided he should first have demonstrated its practicability by experiment. He would not think of undertaking it, however, until it had been shown upon animals that such a restoration of function was possible by the uniting of the severed ends of the cord.

His personal experience in spinal surgery had not been extensive. Eleven years ago he had had at the German Hospital a case of new growth involving five of the vertebrae and causing paraplegia. It had originally, no doubt, been sarcomatous in character, and when seen by him it had become largely infiltrating. He succeeded in removing the greater portion of the mass, and in doing this he had to scrape some of it from the dura. The latter had become softened, and it gave way at some points; allowing a considerable amount of cerebro-spinal fluid to escape. The immediate results of the operation were very satisfactory, sensation and motion in the paralyzed extremities both becoming much improved. Later, however, a relapse occurred, and the case terminated fatally.

A second case of his had a more favorable result. It was one of vertebral tuberculosis of long standing in a lad fourteen years of age, who was admitted to the Mt. Sinai Hospital in December, 1888. In May, 1889, rapidly increasing paraplegia set in, and within a fortnight it was complete. On May 24th it was decided to explore the local state of affairs. The laminae of the sixth and seventh dorsal vertebrae were removed by the chisel and mallet, and an extensive extra and sub-dural abscess was evacuated. Widespread confluent caseation of the soft tissues adjoining the intravertebral focus was found, and in the caseous masses were imbedded the roots of the nerves on both sides. The transverse processes of fifth, sixth, seventh and eighth thoracic vertebrae on the right, and those of the fifth, sixth and seventh on the left, were found carious and partially necrosed, and the pertinent costo-vertebral joints destroyed. Consequently, these transverse processes were removed, as well as the heads of the respective ribs. The bodies of the sixth and seventh vertebrae were also much disintegrated, and their broken-down constituents were gouged away. No immediate improvement in the paralytic symptoms resulted from the operation; but in the following August the power and functions of the lower extremities were re-established; and this restoration took place in the short space of ten days. By massage, faradism, and active movements the muscular power was so enhanced that by October the patient was able to support himself without external aid; while in December, when he left the hospital, he could walk very well and had only a slightly-discharging sinus in the back.

DR. MORRIS said that ascending and descending degeneration followed division of the cord; but it seemed

to him that if, in case of its accidental severance, we could get the two ends of the cord together within a few hours, we might hope for a restoration of function. The ends, it was found after division, did not retract very far, for the reason that the spinal nerves are given off at short intervals. It seemed probable that it would be necessary to remove a vertebra; and in attempting this the most troublesome feature encountered would be the crowding together of the spinal nerves. The danger of such a procedure need scarcely be taken into consideration since the cases in which it might be thought of were of such a very desperate character. He had at present under his care a boy eleven years of age who had been shot with a twenty-two bullet in the line of the tenth dorsal vertebra, with the effect of producing paraplegia. He first saw the patient seven days after the injury, and he immediately cut down and opened the spinal canal. He removed an articular process which was found pressing upon the cord; and this was at once followed by improvement in both sensation and motion. In the right leg the recovery was now almost complete, but in the left the paralysis still continued to a very considerable extent. He was not able to find the bullet which had, no doubt, lodged somewhere in the spinal cord.

DR. R. H. SAYRE urged immediate operative interference in recent traumatic cases, but thought there were many cases of paraplegia resulting from Pott's disease in which a cure could be effected without resorting to operation. Cases which did not yield to systematic treatment directed to Pott's disease within twelve months, however, he said might very properly be looked upon as suitable cases for operation.

DR. SACHS said that up to the present time the results that had been obtained in spinal surgery were not especially gratifying. As a neurologist he thought that surgeons should select their cases for operation with more care than they had hitherto done. With Dr. Sayre he believed that recent cases presented the best opportunities for operative interference. If the cord were separated into parts, however, there was in his opinion not much hope of accomplishing anything. In cases in which the symptoms had become less marked than they were at first, as was the case in one of Dr. Wyeth's patients, there was a much better chance for success, since the amelioration indicated that there had not been a total destruction of tissue. Dr. Abbe, he thought, was deserving of great credit for demonstrating that such good results could be obtained in tuberculous cases as were presented in the patient he had exhibited. Formerly the opinion had been that no operation ought to be undertaken in cases of this character. He had been a little puzzled to understand why in some of the cases reported by surgeons so many laminae had been removed. As a rule, he believed this was entirely unnecessary, since, if proper care were observed in diagnosis, the lesion could ordinarily be located with very great accuracy. Operations for the relief of neuralgic trouble seemed to him to be the most objectionable in the whole range of spinal surgery. Judging from the results obtained by Dr. Abbe in the two cases he had reported, no improvement whatever was to be expected from them, and, in any event, this was certainly a very radical method of attacking neuralgias. It was to be remembered that pain was not the only symptom that was likely to result from trouble involving the posterior spinal roots. Vaso-motor disturbances especially,

as well as neuralgia, would be apt to follow. As these two cases showed, unless we had good reason to infer the existence of organic disease of the posterior spinal roots, it would not be well to interfere in this way.

DR. ABBE said, in regard to neuralgia, that no sane man would think of operating in ordinary cases. In the two patients upon whom he had operated, however, the trouble was so exceedingly aggravated and so utterly unamenable to all other remedial measures that the procedure seemed to him entirely justifiable as a last resort. That such operations might be attended with success was shown by a case in England reported by Bennett. It was one of sciatic neuralgia, and though the patient unfortunately died of apoplexy twelve days after the operation, from the time of the latter there was complete freedom from the pain which before had been so constant and so excruciating. In his own two cases he wished it to be distinctly understood that the character of the pain experienced was entirely altered after the operation. In both patients he believed there had been a hysterical element, although he had tried to eliminate this as far as possible. Both were also still taking morphia largely, and such cases could not be depended upon. Moreover, it so happened that both of these men were trying to get pensions on the ground of disability from the pain. While, therefore, he really believed them to be genuine sufferers, he was not at all sure about the matter. In fractures of the spine he thought the operation should very rarely be done. He was not positive, however, that restoration of innervation to the lower segment of the cord could not be successfully accomplished after further experiments had been made upon animals. But to bring the divided parts of the cord directly together again he believed could only be accomplished by removing one of the vertebrae, and this did not seem possible to him without destroying the patient's life.

AMERICAN NEUROLOGICAL ASSOCIATION.¹

ON INGRAVESENT APOPLEY.

DR. C. L. DANA read a paper with this title. He said that there were three sets of intra cranial blood-vessels, those in the dura, those in the pia mater, and those in the substance of the brain. We had correspondingly three types of intra-cranial hemorrhage. The central hemorrhages were far the most common, and presented a tolerably uniform clinical type. There was one form, however, which had seemed to have escaped critical attention, though it could not be excessively rare. In 1876, Dr. Broadbent had reported six cases of what he had termed "ingravescient apoplexy." In 1889, M. P. Prusch, of Montpellier, had also reported a case of the same character. The writer had met two cases presenting the general clinical characters of ingravescient apoplexy, but was able to make an autopsy upon only one, of which the data was as follows: A woman was brought to the hospital May 1st, without any history. She was in a stupid condition but not unconscious, and she was at first thought to be intoxicated. Examination showed, however, some hemianesthesia of the left side and slight hemiplegia of the same side. The right pupil was slightly contracted, temperature normal, pulse tense. Next day the pa-

¹ Report of the Sixteenth Annual Meeting, held at Philadelphia, June 4-6, 1890. Concluded from page 63 of the Journal.

tient's mind was clearer; she answered questions and recognized those about her. But the hemiplegia was very much worse, and the analgesia no better. Toward night she became more stupid and finally comatose; edema of the lungs developed. No contractures of the paralyzed side were noted. The temperature rose and the patient died next day, May 3d.

At the autopsy the brain was found congested. Pressure over the supramarginal gyrus showed that there was a softened place beneath it. The brain was placed in boroglycerine and alcohol, and opened later by vertical section. There showed a clot in the lateral ventricle and some blood in the third ventricle. Beneath the supramarginal gyrus was a large hemorrhagic focus about one inch and a half in diameter. This extended forward and downward cleaving the external capsule. The hemorrhage had finally extended downward and inward, and broken into the lateral ventricle. Prush had attempted, on the slender basis of seven cases, to erect "ingravescence," or, as he called it "progressive," apoplexy into a distinct type. This seemed to the author to be somewhat premature. The history of his case was not exactly like those of Broadbent's in respect to retention of consciousness; and the hemiplegia was relatively less marked. Yet anatomically it was one of the "cleaving" hemorrhages due to rupture of a posterior branch of a lenticular artery, and running the same course as was described by Broadbent. The hemianesthesia seemed to the author to be a very distinctive point. Practically the question came up as to whether in such cases trephining would be justifiable. In general, the idea of trephining for non-traumatic hemorrhage was not to be entertained at all. But in ingravescence apoplexy it deserved consideration because here the hemorrhage was accessible, and because, unless some relief was given, it would surely break into the lateral ventricle and kill the patient. In all the reported cases, also, the patients were not old, were not syphilitic, and presumably had not extensively diseased arteries. In reaching hemorrhages in these cases, the best place to trephine would be a little below and in front of the parietal eminence. The surgeon should then explore downward and forward, care being taken not to injure the terminal branches of the Sylvian artery, which were in this neighborhood. In cases of "ingravescence" apoplexy, surgical interference, if undertaken, must be before the blood broke into the ventricles. This could be told by the sudden increase in the severity of the symptoms, and, if the blood was poured in rapidly, by contractures on the paralyzed side. The temperature changes were believed to be the same in the ingravescence as in ordinary apoplexy.

DR. MILLS had seen a number of such cases. The results of his experiments had led him to think that the trephining, if done at all, should be several inches back from the temporal lobe, along the junction of the second and third temporal convolutions. He had known of patients with intra-ventricular hemorrhage recovering independent of the question of trephining.

DR. W. SINKLER said Dr. Dana had referred to the question of temperature. He had recently had a patient die from enormous hemorrhage into the ventricle and the temperature at death was 108°.

DR. WEBER questioned the utility of trephining in those cases in which the history was rupture.

DR. MILLS said the advantage of trephining was that it gave the patients a lease of two or three weeks as

the breaking into the ventricles did not take place until late. By trephining and finding the bleeding point, there was perhaps a chance of controlling it.

DR. DANA said that trephining was purely empirical, and he could not say whether it was good or not.

PONS LESIONS IN THEIR RELATION TO ASSOCIATED EYE MOVEMENT PARALYSIS.

DR. SPITZKA presented this paper by title, accompanied by the demonstration of a specimen of a minute focal lesion of the dorso-caudal part of the pons, unilaterally situated in and near the abducens nucleus. In connection therewith, Dr. Putnam mentioned one of similar location to Dr. Spitzka's, in that the presumable lesion must have occupied the same position.

A CONTRIBUTION TO THE PATHOLOGY OF THE SOLITARY TUBERCLE OF THE SPINAL CORD,

by DR. HEUTER.

The paper consisted of a report on the clinical history and pathological anatomy of three hitherto unpublished cases of solitary tubercle of the cord, and of brief analysis of the clinical and pathological features of the condition based on these cases, and in those which had been collected from the literature on the subject. It was believed that the clinical history of solitary tubercle of the cord could be more accurately written than heretofore, with the help of the facts that had been recorded in the given cases. The uniformity of the symptoms in different cases, especially as regarded their course, the rapidity with which the usually unilateral symptoms became bilateral, the comparative insignificance of the irritative phenomena, and the frequency with which the signs of tubercular disease in other organs existed, were characters of solitary tubercle of the cord which might help in this distinction, both from tumor of the membranes and from other varieties of tumor of the cord.

DR. SACHS said it was some years since his paper on this subject was written. At that time he had thought that the very slow development, the strictly unilateral symptoms and subsequent spread of the disease involving both halves, would constitute a basis for diagnosis of tumor of the cord. Now the point came up with regard to the possibility of distinguishing between extra- and intra-dural tumors.

DEMONSTRATION OF SOME SPECIAL ANATOMICAL CHARACTERISTICS IN THE BRAIN OF A DISTINGUISHED SCIENTIST.

DR. B. J. WILDER presented the brain of the late Mr. Chauncy Wright, and demonstrated to the Association what he deemed striking anatomical points. One peculiarity specially dwelt upon was the existence of a very simple insula, instead of a complex one. Then the inhibition of the fissure of Rolando by an isthmus was so rare as to call for attention. Then in contra-distinction to the condition in other brains it would be seen that the central fissure above that point was shallow. The speaker urged his hearers to aid in every way possible the further investigations of comparative anatomical study in this field. To successfully effect this it was necessary to secure young human and apes' brains in every stage of development.

TUMOR OF THE QUADRIGEMINAL REGION WITH SPECIAL REFERENCE TO OCULAR SYMPTOMS.

DR. B. SACHS read a paper with this title. He had been fortunate enough to obtain two autopsies, during the past year, which bore upon this question, and also

several cases which were subjected to careful clinical examination. His first case was one of unusually severe tuberculosis cerebri. The main points of the history, which he had been able to complete, through the kindness of several colleagues, were these: E. L., aged three years, when first seen she had double ptosis, but no other ocular paralysis was observed. She was dull and listless, and had a pulse that ranged from 145 to 160, but with normal temperature. The mother had noticed a change in the child's disposition since an attack of measles nine months previously. The child did not care to play, but preferred to sit quietly in a chair all day long. She staggered in walking and occasionally fell. She had no epileptical attacks, and had vomited but once. Knee-jerk was absent. The right hand was weaker than the left. No anesthesia or ataxia. There was paresis of both latorv pulpetrani, the pupils being half covered. No nystagmus. Pupils were equal, moderately dilated, and reacted well to light and accommodation. December 28, 1888, the patient had come under Dr. Sachs' care. The condition at that time had showed great changes. Examination disclosed double and almost complete ptosis. There was no upward or downward movement of either eye. Both external recti muscles were thrown into clonic spastic condition when the attempt was made to use them. The interni were capable of very slight movement, but all the other ocular muscles were completely paralyzed. The accommodative reflexes were still distinct, and there was slight contractility to light. There was also slight left facial paresis. The vision was very much impaired. Although in a semi-stupor, the child could be made to walk, and then exhibited most distinct cerebellar staggering, walking with a broad base, and almost falling to the right side. The oculist reported plaques of choroidal atrophy below the macula of left eye. The reflexes were exaggerated, and there was occipital headache. The diagnosis of tumor of the corpora quadrigemina was given. The tumor was supposed to be associated with a general tubercular meningitis. The child grew rapidly worse, and after passing through several convulsive seizures, becoming blind, and finally developing left hemiplegia, died February 4, 1889. Autopsy showed the dura adherent to the skull and it had to be removed with the calvarium. The quantity of the sub-dural fluid was slightly increased. A solitary tubercle was at once discovered near the right lateral sinus, pressing into the lateral edge of the cerebellum and producing thrombosis of the lateral sinus. Other tubercles with large areas of softened tissue were found in the cerebellum. Deep examination of the brain showed the hemispheres to be healthy, with the exception of the small tubercular deposits along the paths of the blood-vessels. The cerebellum was the seat of the most profound changes. The base presented several unusual conditions. There was great thickening of the pia with small tubercular deposits between the corpora mamillaria and optic chiasm, and in the interpeduncular space. The thickening at this point was so great that both third nerves instead of lying across the crura, after removal of the brain, pointed backward, and the right, the sixth, was twisted out of its position. Section of the brain showed the tumor to occupy almost the centre of the tegmental division of the crus and had left a very small portion of the corpora quadrigemina and the brachia intact. The occipital head-

aches and the cerebellar staggering were the only symptoms which could be ascribed to the large tubercles in the cerebellum, though both these symptoms might be due to the lesion of the quadrigeminal region. It was probable that the sixth and seventh nerve nuclei were responsible for the symptoms pointing to lesions of those nerves, or that the basilar meningitis was at fault. Certain it was that the latter condition was late in developing, as for months the symptoms had been distinctly nuclear. In spite of the manifold morbid conditions, it was most remarkable that the ciliary muscles and the sphincter iridis had remained exempt during the entire period of observation. Considering the compactness of all cerebral structures in the crura, it would be supposed that there could be no difficulty in making a differential diagnosis between cases of tumor in this region, and a chronic inflammatory process.

CRUS LESION.

This was the title of a second paper by Dr. Sachs. Crus lesions were rarer than many other cerebral lesions, but their symptoms were well-marked. The case under consideration had some special interest, however, in connection with post-hemiplegic disturbances of motion and from this point of view, the results of the post-mortem examination were worthy of consideration. Seven years ago the patient, a woman, about fifty years of age, had had a dizzy attack one morning, and had found her vision rather blurred. There was a recurrence of the attack in fifteen minutes. There was no unconsciousness nor difficulty with speech, but when the patient attempted to walk she found she could not with ease. By morning she had almost complete left hemiplegia, she could not open either eye. At that time speech was heavy and indistinct, but from this she had recovered in three weeks. Hearing, taste and smell were altogether normal. The hemiplegia was never recovered from, the patient became somewhat unruly and demented, and was finally taken to the Montefiore Home where she had remained for many years. A few further details of the patient's chronic condition were elicited in examination. There had been no history of syphilis, but there was very marked atheroma of the peripheral arteries. In addition to the left hemiplegia, the patient had suffered amputation of the right leg above the ankle, for old necrosis of the tibia, fully six years before. There was rigidity of the left leg and increased knee-jerks of both sides. The wrist reflex was decidedly increased on the paralyzed side, but the left upper extremity was subject to the wildest ataxic movements. This would go on until the arm dropped from exhaustion, when it would remain quiet until aroused again by an effort to use the hand. She became extremely emotional, took very little nourishment and finally died. The diagnosis of crus lesion of the right side, probably softened from thrombosis, was made, which the autopsy confirmed.

ON THE GERM OF A COMMUNICABLE DISEASE DERIVED FROM A DOG, ALLEGED TO HAVE DIED OF RABIES, WHICH RETAINS RABIC CHARACTERS.

DR. RICHARD MOLLENHAUER exhibited some microscopic specimens taken from a dog which he had succeeded in rendering rabid by inoculation. The germ was a bacillus whose various growth-stages presented a uniform type.

A CASE OF INSULAR SCLEROSIS IN WHICH AN ATTACK OF CEREBRAL HÆMORRHAGE ARRESTED THE TREMOR ON THE HEMIPLEGIC SIDE.

DR. WHARTON SINKLER related the history of this case. The patient, a man aged sixty-four years, had always enjoyed good health until about ten years ago when he began to notice tremor in both hands, but worse in the left. In 1889 he had experienced an attack of left hemiplegia without loss of consciousness. Since that attack there had been no tremor on the left side, but a coarse tremor on the right side still persisted. The patient's appetite and general health had remained good. The hemiplegia continued about the same with no further involvement of the tremor.

REMARKS ON THERAPEUTICS AS APPLIED TO NERVOUS DISORDERS.

DR. W. R. BIRDSALL read a paper with this title. Early diagnosis he regarded as the most important factor for therapeutic success in diseases of the nervous system, as it frequently enabled the physician to check the course of a disease where marked disability had not yet resulted. Hygienic measures were considered of prime importance and pharmaceutical remedies as valuable accessories in the treatment of these diseases. All relation between storage and expenditure must be readjusted to the disturbance in equilibrium, and the aim of therapeutics consisted in bringing about such a readjustment. The modern craze for so-called physical culture, the author believed was bringing forth dangers as great as those it was sought to remedy, through over-training, improper training, training for brain workers, which fatigued rather than rested the brain, together with other faulty methods. Hydrotherapy he considered was much neglected, and electrotherapy overestimated. Next to hygiene cutaneous irritation was decidedly the most important therapeutic measure possessed by the neurologist. Surgical interference and the drugs usually employed by the neurologist were then briefly referred to.

DR. W. SINKLER believed in the use of drugs in nervous disorders. No doubt arsenic in chorea, hyosciamine or hyoscine in various tremors, the iodides and antisyphilitic remedies in specific diseases of the nervous system were all of value. He wished to put himself on record as not being a pessimist or nihilist.

DR. BRUSH said he wanted to accentuate what Dr. Birdsall had said as to the management of cases of nervous diseases. A great many could be better treated by other means than drugs. He should some day present some cases of insanity from drug poisoning. Once he used to try everything that came along, but now he made less and less use of drugs.

DR. L. C. GRAY said he was a believer in the efficacy of properly directed therapeutic measures in combination with everything else in the treatment of nervous disorders. Chorea in all its minor forms, neuralgias, functional nervous disorders, subacute or acute mental troubles, except acute mania, were all amenable to judicious therapeutical endeavor on the part of the neurologist.

The officers elected for the ensuing year were, President, Dr. Wharton Sinkler of Philadelphia; Vice-Presidents, Dr. C. L. Dana of New York and Dr. S. G. Webber of Boston; Secretary and Treasurer, Dr. G. M. Hammond of New York; Councillors, Dr. G. L. Walton of Boston and Dr. L. C. Gray of New York.

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CARDIAC DYSPNEA.

WHEN we consider the frequent coincidence of cardiac lesions with dyspnoea, we cannot regard it as surprising that in the infancy of pathological anatomy Rostan, noticing in a large number of aged patients at the Salpêtrière recorded as asthmatic, definite lesions of the heart and aorta, should have concluded that asthma, as an idiopathic malady, does not exist, being always symptomatic of diseases of the circulatory organs.

When we inquire into the conditions of cardiac dyspnoea, we find them to be: mitral stenosis and insufficiency, myocarditis and fatty degeneration of the heart-muscle, dilatation of the ventricles and aorta, from whatever cause, and uncompensated lesions of the valves of the aorta and pulmonary artery.

In the case of most of the above causes, the *modus agendi* is very simple; the dyspnoea is of mechanical origin, being the result of pulmonary stasis; the heart is unable to clear the capillaries in the sphere of the lesser circulation.

Most persons affected with mitral disease are short-breathed; when at rest they have little or no dyspnoea, but they immediately suffer for want of breath when they attempt any considerable exertion, as going up a flight of stairs, or ascending a hill. In the earliest stages of mitral insufficiency, the dyspnoea may be hardly noticed, except when the heart is severely taxed, as in the effort of running; in advanced stages, the difficult breathing becomes permanent on account of the constant pulmonary engorgement. There is nothing asthmatic about this, for the essential characteristic of asthma is the intermittent and paroxysmal character of the dyspnoea.

The difficult breathing attending aortic-regurgitant disease, aortitis, dilatation of the heart-cavities and aorta, fatty degeneration, etc., is generally paroxysmal in its nature, and the attacks come on in the night time rather than in the day. The explanation given by Professor Sée was formerly regarded as satisfactory: "The blood-stasis in the lungs, which is the first cause

of the oppression, manifests itself generally in the night time, because it is favored by declivity, that is, by the dorsal decubitus; to this first cause are added others which contribute much toward provoking the explosion of those attacks of respiratory distress which often present a formidable intensity; these purely mechanical causes are: distention of the stomach, the forcing upward of the diaphragm, which notably diminish the respiratory area already insufficient for haematoisis. Add, as accessory causes, bronchial catarrh and frequent concomitant emphysema, and you have the entire etiology of paroxysmal dyspnea linked to affections of the heart.¹

The dyspnea due to dilatation of the heart, according to Professor Sée, is almost always continuous, though there are paroxysmal exacerbations, and that due to fatty degeneration is *sui generis*, "presenting sometimes real paroxysms of distress and suffocation at the same time that careful examination of the lungs does not reveal any morbid signs; there is not the least acceleration of the breathing, or any apparent impediment to respiration."

Irritation of the cardiac and respiratory plexuses of nerves, as Peter, Rousseau, etc., teach, has been believed to have some share in the respiratory distress, and magical relief conferred by a hypodermic injection of morphine or other calmative, before even the pulmonary congestion or edema is mitigated, has been cited in confirmation of this doctrine.

Henri Huchard has, of late, written much and lucidly on the paroxysmal dyspnea of aortic regurgitation and aortitis. The dyspnea of aortitis is like that of mitral disease, at the first a dyspnea of effort, coming on during rapid walking, lifting, etc.; it is paroxysmal and often intense, rarely spontaneous. Later on in the disease, the attacks come on in the night time, often reproducing themselves with great regularity, so that the patient is obliged to pass the night in his arm-chair. Huchard regards this "aortic pseudo-asthma" as due to arterial hypertension which "augments by the recumbent posture and under the influence of sleep, as also by walking, and under the influence of movement." The cause of the dyspnea is "mechanical," as Professor Sée taught, but not in the same sense as he taught, for in Huchard's view, we have to do with "peripheral resistances," and "spasm" of the blood-vessels. If, says Huchard, distention of the stomach has anything to do with the paroxysmal dyspnea, abstinence from the evening meal or a very frugal repast ought to keep the patient free from his nocturnal attack; this is, however, sure to come, whether he eat little or much.

This dyspnea, Huchard affirms, is also of toxic origin. Experiments like the following seem to demonstrate this. He injects under the skin of a guinea-pig normal urine; death ensues in several days. He injects the same quantity of urine from a woman affected with arterio-sclerosis of the heart and aorta, and the guinea-pig scarcely suffers any detriment. This proves, he says, that the blood of his patient was poisoned

by the products of disassimilation which the kidneys, already impermeable by the fact of the aortitis and a commencing arterio-sclerosis, could but incompletely eliminate. These views, he urges, are not simply theoretical, they are confirmed by practice. In fact, blood-letting, purgatives, nitrite of amyl, nitro-glycerine, etc., which depress arterial tension, contribute in large measure to diminish the intensity of the attacks. But nothing works so well as an exclusive milk diet, which acts marvellously in combating these attacks of aortic dyspnoea, often keeping them completely in abeyance. Now milk diet, according to Huchard, acts in two ways and meets two indications: first, by the abundant diuresis which it provokes, the milk diminishes the arterial tension and promptly eliminates the toxic principles contained in the blood; then it acts by virtue of its very harmlessness and because it does not launch into the circulatory current, like other aliments, and meat in particular, materials which, not being completely eliminated, become rapidly toxic to the economy.²

MEDICAL NOTES.

— The following dispatches have been received by the United States Secretary of State from H. R. Newberry, *chargé d'affaires* at Madrid, under date of June 20-23, 1890:

"Sir: — It is difficult to say just the exact condition of things in the province of Valencia in regard to the cholera epidemic. This much is certain, that 120 deaths have occurred in the province of Valencia from cholera morbus, or Asiatic cholera, as the doctors are about evenly divided as to which it is. The inhabitants, such as are financially able, are leaving the country, and the government is sending physicians and medical supplies to the district in trouble. From conversation with my colleagues of the diplomatic corps, I am inclined to believe that the condition of affairs is not exaggerated, and that the disease is spreading gradually, as press dispatches keep reporting new cases, each time a little farther away from the original bed of disease. Three cases are unofficially reported in Madrid.

"At my own expense, I sent a man to the village of Puebla de Rugat, in the valley of Albaida. He has returned, and reports a sad condition of things. Out of a population of 1,500 people in the valley, there have been 127 deaths; 800 have fled to neighboring villages, and those remaining are in dire destitution, without money and food, and 200 of them sick. The authorities of the province are doing all they can, but they have no disinfectants, few physicians, and, with the extreme heat and deplorable condition of sanitary arrangements, the situation cannot help but become dangerous. . . .

"From private information, I know that there were 61 deaths in the village of Puebla de Rugat for the

¹ Vide Huchard, *Maladies du Cœur et des Vaisseaux*, Paris, 1889. Also, *La dyspnée chez les cardiaques*, in *Semaine Médicale*, April 13, 1890, p. 125.

² *Maladies du Cœur*, etc., 1883, p. 30.

twenty-four hours ending midnight June 19th, and 16 at Monticello, a village of 850 people. The Academy of Medicine has issued a bulletin stating that the disease is Asiatic cholera. . . .

"The authorities have prohibited anti-cholera vaccinations, as practiced by Dr. Ferran's system. The district of Gandhi is prohibited from exporting fruit and vegetables."

— Manor, a town of five hundred inhabitants in Westmoreland County, Pa., is strucken with a malignant type of typhoid fever. There are over two hundred cases in the town and the deaths have been four a day for the past two weeks. The cause of the scourge is attributed to the impurity of the water.

— Dr. John A. Wyeth, of New York, has promised to deliver the address before the Mississippi Valley Medical Association, at Louisville, Ky., October 8, 1890; and Dr. Frank Woodbury, of Philadelphia, will read a paper. A number of gentlemen prominent in medicine in the Mississippi Valley have promised to read papers and discuss subjects. Among these are Drs. Reamy and Whittaker of Cincinnati, Sutton of Pittsburgh, Corlett and Scott of Cleveland, Love of St. Louis, King of Kansas City, and many others.

— In a lecture on Syphilis, delivered before the Royal Academy of Medicine, Dublin, Mr. H. Fitzgibbon is reported to have read a quotation from Lancreaux's work on "Syphilis in Ancient Times and in the Middle Ages," found in Chinese medical writings so far back as 2637 B. C. This describes, it is said, what one cannot fail to recognize as a hard chancre, followed by all the phenomena which mark the course of a neglected case of syphilis. Commenting on this statement, the *Chinese Medical Missionary Journal* says this date seems to be somewhat wild. Wylie states that the oldest medical treatise extant is probably the "Hwang te soo wan," which there is reason to believe, he says, to have been written several centuries before Christ.

NEW YORK.

— At two o'clock on July 15th, the first water from the new Croton Aqueduct was permitted to enter the Central Park Reservoir. It was expected that the Mayor would be present, and turn the regulator at the gate-house; but he arrived a little too late to perform that function. After that the water flowed in from four small sluice-ways at the rate of 1,500,000 gallons per hour, in addition to the supply coming from the old aqueduct. At the meeting of the Aqueduct Commissioners on that day, the following resolution was adopted:

"Resolved, That, as our citizens enjoy to-day by the utilization of the new aqueduct, for the first time, the benefits of an undertaking which stands an unparalleled monument to engineering skill, and which in every way contributes to our city's health and welfare, the members of this commission warmly congratulate the public of the city of New York upon the virtual

fruition of an enterprise of such incalculable magnitude and merit."

In addition to the four pipes to Central Park, there are four other pipes, of the same capacity, from the 135th Street gate-house to various distributing points in the city; but water has not yet been let into them. Since the fresh supply of water is drawn from the same source as the old Croton Aqueduct, it will, of course, be understood that the completion of the new aqueduct does not imply an increased water-supply, but the means of bringing to the city more of the existing supply, and also the increased supply when new storage reservoirs now in contemplation shall have been finished and filled with water. The first of these new reservoirs will not be ready for storage until next spring. The most important of the new reservoirs is to be the one formed by the construction of the great Quaker Bridge Dam, and this has not yet been commenced.

— It has been decided not to contest the will of Mr. William J. Syms, which leaves \$350,000 to build and equip the fine operating theatre at Roosevelt Hospital. The will was probated last summer, and in April last a sister of the deceased began proceedings for the revocation of the will, on the ground that her brother was of unsound mind when he made it, and that he was under undue influence. The revocation proceeding has been abandoned, and there is now no obstacle to the carrying out of the will.

— In the Carroll case, in Brooklyn, in which the patient was supposed to have been poisoned by a dose of crystalline hyoscyamine put up by a druggist's clerk, in mistake for amorphous hyoscyamine, and in which the body was embalmed by an undertaker before an autopsy was made, the coroner's jury has rendered a verdict that the deceased came to his death from natural causes. The drug clerk was censured, however, for carelessness in filling the hyoscyamine prescription. At the inquest, Drs. Gustav Müller and R. G. Eccles were called as experts; and they testified that they had never heard or read of a case of hyoscyamine poisoning, and that the effect could not have been fatal whether the druggist had put up the crystalline or amorphous form of the drug.

— For some time past complaints have been made to Health Commissioner Griffin, of Brooklyn, about the persistence with which mothers of very young children have been besieged by manufacturers of infant foods and kindred preparations. Most of the complainants, it is said, have been physicians, some of whom said that they had been charged by their patients with betraying their circumstances to manufacturers. The physicians were, in consequence, led to suspect that some one connected with the Bureau of Vital Statistics was the guilty party; and an investigation by Commissioner Griffin, has resulted in the discovery that one of the clerks in this department had been communicating the name and address of every woman who became a mother, and had been paid by

the manufacturers referred to for the information thus conveyed. The practice was, of course, at once put a stop to.

Miscellany.

WOMEN'S SCHOLASTIC HONORS.

MISS FAWCETT's triumph in the mathematical tripos puts the crown on a long series of successes by women students at Cambridge. There have now been women "seniors" in all the important triposes (except law). Here is the list as we find it in *Science*:—Moral Science tripos: in 1880, Miss Jones was bracketed senior; in 1881, Miss Moberly was senior; and so in 1884 was Miss Hughes. Historical tripos: in 1886 Miss Rolleston (daughter of the late Oxford professor of zoölogy) was bracketed senior, and in 1887, Miss Blanche Paul was similarly placed. Mediæval and modern language tripos: here there have been four lady seniors. In 1886, two women and no men were placed in the first class. The women, who were placed in alphabetical order, were Miss Chamberlain and Miss Skeat (daughter of Professor Skeat). In 1887, Miss Harvey was senior; and 1888, Miss Tuke (whose father is well-known in connection with schemes of Irish emigration). Finally, there are the successes of Miss Ramsay in the classical tripos (1887), and of Miss Fawcett in the mathematical (1890). Of these eleven lady seniors, two came from Girton (Miss Jones and Miss Ramsay), the rest from Newnham. It is often asked what becomes of women students when they leave college. A few particulars about some of these lady seniors may therefore be added. Miss Ramsay is now Mrs. Montague Butler, the wife of the master of Trinity; Miss Moberly is head mistress of the Tunbridge Wells High School for Girls; Miss Hughes is head of a training-college at Cambridge; Miss Chamberlain is Instructor in German at Bryn Mawr College, Philadelphia; and Miss Jones is Moral Science Lecturer at Girton. Promptly to repair the apparent neglect of legal studies came the news of the success of women law-students at Paris, where Mlle. Belcesco, a Roumanian girl, has just taken her degree as *docteur en droit* after obtaining the highest place in the licentiates' examination. A French lady and two of Russian birth also did well. Mlle. Belcesco means to practise at the bar at Bucharest, confining herself to the cases of poor women who cannot pay counsel; her thesis for admission to the Paris faculty contained seven hundred pages, of which two hundred were, with an exercise of prudence on the part of the lady, not read. The fact that not Portia herself would be allowed to practise in England no doubt explains why women have not yet carried off the honors of the law tripos at Cambridge.

CHOLERA IN SPAIN.

DR. DE PIETRA SANTA presents a *coup d'œil* of the situation in Spain, in an article in *La Journal d'Hygiène*, July 3d, which is translated for the *Bulletin of the Marine-Hospital Service*, July 18th.

"A cholera epidemic has broken out in the province of Valencia, Spain. It showed itself on the 13th of May last at Puebla de Rugat, a village of 700 inhabitants. The disease cannot have been imported, the village being remote from the sea-board and having no

suspicious outside communication. It is undoubtedly a local epidemic, caused it is asserted, by the turning up of earth in the vicinity of a sewer. It will be remembered that in 1884 and 1886, Valencia was infected with cholera. The present epidemic is probably, therefore, a fresh outbreak of the former epidemic.

"From May 13th to June 15th one hundred persons were attacked; of these twenty died.

"At Montechelvo there were seven deaths out of fourteen cases. The inhabitants left the town and the disease died out. One case is reported at Valencia and one death at Albaida.

"The latest information received is that sanitary cordons have been placed around the infected localities, and that two-thirds of the population of these places have fled. It has been proposed to burn the earth infected by the sewers, an excellent means of disinfection when it can be effectively practised. The quarantine applied in the sea-ports of the provinces against outside communication would seem an unnecessarily stringent measure.

"The cholera epidemic of 1884 was especially severe in the province of Alicante. Valencia was visited that year by the epidemic, but only to the extent of 300 cases. In 1885, according to official statistics, there were more than 300,000 cases of cholera in Spain and more than 100,000 deaths, of which 21,612 occurred in the province of Valencia. It is also known that cholera was observed in Spain up to the beginning of the year 1886.

"The following sanitary facts may not be without importance in this connection:

"The city of Valencia has no system of cesspools. Private drains empty directly into immense sewers, constructed by the Moors hundreds of years ago, and which it is impossible to flush in a dry, warm country which has a slender water-supply. Many of the houses are ill-ventilated, ill-lighted, of bad construction, and with slight communication with the outer air. It was in such localities that the greatest number of cholera cases were observed during the epidemic of 1885.

"It is much to be desired that Spain should abandon the effete system of quarantine, which does more harm than good and which is equally opposed to sound scientific and humanitarian principles."

A CASE OF GREATLY PROLONGED GESTATION.

DR. RICHARD WILSON reports in the *University Medical Magazine* for July, 1890, a case of interest in the above connection:

"Mrs. M., aged twenty-nine years; married February 27, 1889; was regular all her life; saw her menses last on March 11, 1889. She says she felt motion in July. If we add 280 days to March 11th, we get December 16th, the day on which the child might be expected. On January 30, 1890, as the child was not yet born, Dr. G. P. Sargent of Bryn Mawr, the attending physician, called Dr. Atlee in consultation. On examination he found the 'child in the usual position; the back forward, the breech upward; the body inclined toward the right side of the belly, as the hand felt upward. In the vagina a hard head was felt. The neck of the womb was about half an inch in thickness, very soft, admitting the finger without much pressure.' On

February 2d Dr. Atlee saw the patient again, and there was no change in her condition, except that the neck of the womb was not thicker than a sheet of paper. As he heard nothing more of the case he supposed the labor had taken place.

"The following note was received by him from the attending physician, after the middle of March, under date of March 17, 1890:

"Mrs. M. was delivered of a boy at eight o'clock this evening. There is nothing unusual in the child's appearance. Weight about six or seven pounds. Delivery rather difficult, but without instruments. The funis was around the neck; large child, very active; both mother and child doing well."

"From March 11, 1889, the date of the last menstruation, to March 17, 1890, the date of the labor, there were 371 days, or six days more than a year. Supposing that her menses were suppressed on March 11th from some other cause than pregnancy, and that she had not become pregnant till the next menstrual period, which would be April 3, 1889 (adding twenty-three days, the usual time between the catamenia), then the duration of pregnancy (from April 3, 1889, to March 17, 1890) would be 348 days, or 11 months and 14 days, which is two and a half months beyond the usual term. But if this is the case, then she felt quickening at the third month, for, she says, she felt motion in July."

REPORTED MORTALITY FOR THE WEEK ENDING JULY 12, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	1157	697	36.16	9.04	1.92	29.36	.48
Chicago	1,100,000	445	246	30.59	8.74	2.07	22.77	4.37
Philadelphia	1,061,277	553	294	27.18	7.02	1.62	19.98	2.34
Brooklyn	852,467	606	406	40.63	7.65	3.40	34.68	.68
St. Louis	550,000	198	127	27.50	7.50	1.60	18.50	1.00
Baltimore	500,343	200	125	34.96	4.70	1.14	25.38	3.80
Boston	418,110	194	79	21.42	13.77	3.06	15.34	.51
Cincinnati	325,000	155	83	21.45	5.85	1.95	18.20	.65
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	101	50	2.07	.90	—	1.44	.54
Nashville	68,513	34	15	23.52	8.82	—	—	2.94
Charleston	60,145	35	15	44.30	5.72	—	11.44	—
Portland	42,000	10	1	10.00	20.00	—	—	10.00
Worcester	81,622	31	16	22.61	16.15	—	19.38	—
Lowell	73,370	41	25	36.60	9.76	—	31.72	2.44
Cambridge	67,026	29	13	27.60	10.35	—	24.15	—
Fall River	64,092	56	42	76.23	7.15	3.58	60.86	—
Lynn	55,200	29	4	34.5	13.80	—	—	—
Springfield	41,520	17	9	23.52	17.64	—	23.52	—
Lawrence	41,058	30	17	36.63	6.66	13.33	20.00	—
New Bedford	38,218	20	8	20.00	15.00	—	20.00	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	33,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,242	15	6	13.33	6.66	6.66	6.66	—
Chelsea	28,781	10	2	—	20.00	—	—	—
Haverhill	27,124	9	5	55.55	—	—	44.44	11.11
Taunton	25,544	5	3	40.00	—	—	10.00	—
Gloucester	24,304	7	1	—	—	—	—	—
Newton	22,011	—	—	—	—	—	—	—
Malden	20,615	5	1	—	20.00	—	—	—
Waltham	17,998	2	0	—	—	—	—	—
Foxburg	17,998	3	0	—	—	—	—	—
Attleborough	15,954	—	—	—	—	—	—	—
Pittsfield	15,762	3	3	—	—	—	—	—
Quincy	14,114	5	1	—	20.00	—	—	—
Newburyport	13,915	7	1	42.84	—	42.84	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 4,070; under five years of age 2,191: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 1,340; consumption 351; acute lung diseases 192; diarrhoeal diseases 1,050; diphtheria and croup 94; typhoid fever 66; whooping-cough 43; measles 30; cerebro-spinal meningitis 23; scarlet fever 15; malarial fever 13; erysipelas 6.

From whooping-cough, New York 14, Philadelphia 9, Brooklyn 3, Boston 3, St. Louis, Baltimore and Nashville 2 each, Washington, Charleston, Fall River, Lawrence, Salem and Taunton, Worcester, Troy, Utica, New York 22; Baltimore 2; Philadelphia, Brooklyn and Lynn 1 each. From cerebro-spinal meningitis, St. Louis 8, Chicago 5, New York 4, Baltimore 3, Brooklyn, Worcester and Cincinnati 1 each. From scarlet fever, New York 5, St. Louis 3, Philadelphia and Baltimore 2 each, Chicago, Brooklyn and Lynn 1 each. From malarial fever, New York and Baltimore 4 each, Brooklyn 3, Nashville 2. From erysipelas, New York 3, Boston, Cincinnati and Lowell 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending June

28th, the death-rate was 16.9. Deaths reported 3,158: acute diseases of the respiratory organs (London) 206; measles 151; diarrhoeal diseases 102; whooping-cough 80; scarlet fever 44; diphtheria 42; fever 27.

The death-rates ranged from 10.6 in Bradford to 27.1 in Manchester; Birmingham 19.1, Bolton 18.9, Hull 14.6, Leeds 19.2, Leicester 14.5, Liverpool 18.6, London 15.9, Nottingham 11.3, Newcastle-on-Tyne 23.7, Sheffield 19.6, Sunderland 17.2.

In Edinburgh 17.3, Glasgow 23.6, Dublin 22.8.

In the twenty-eight greater towns of Scotland and Wales with an estimated population of 9,715,559, for the week ending July 5th, the death-rate was 17.4: deaths reported 3,236: acute diseases of the respiratory organs (London) 244; diarrhoea 150; measles 132; whooping-cough 92; scarlet fever 45; diphtheria 29; fever 16.

The death-rates ranged from 6.7 in Brighton to 23.3 in Manchester; Birmingham 16.9, Hull 14.6, Leeds 20.4, Leicester 16.6, Liverpool 16.7, London 17.5, Newcastle-on-Tyne 18.9, Nottingham 14.1, Sheffield 16.1.

In Edinburgh 14.6, Glasgow 24.5, Dublin 23.1.

The meteorological record for the week ending July 12, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*		Rainfall. Duration Hrs. & Min. Amount in Inches.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
Saturday, July 12, 1890.	Daily Mean.	Daily Mean.	Daily Mean.	Daily Mean.	Daily Mean.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
Sunday... 5	30.00	68.5	78.0	59.0	57	64	69.5	N.W.	S.	5	10	C.	C.				
Monday... 7	30.04	72.0	82.0	62.0	57	63	68.0	S.W.	S.W.	3	16	C.	F.				
Tuesday... 8	29.80	79.5	92.0	67.0	71	71	71.0	S.W.	E.	12	18	O.	C.				
Wednesday... 9	29.76	74.0	82.0	65.0	44	44	44.0	W.	N.	21	23	F.	C.				
Thursday... 10	30.06	61.5	78.0	53.0	55	51	52.0	N.W.	N.	10	12	O.	G.				
Friday.... 11	30.21	61.0	68.0	54.0	55	54	56.0	N.E.	E.	9	4	O.	O.				
Saturday, 12	30.11	63.5	72.0	55.0	57	52	54.0	N.W.	S.W.	7	12	C.	O.				
Mean for Week.																	

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 11, 1890, TO JULY 18, 1890.

By direction of the Secretary of War, leave of absence for three months, to take effect September 15, 1890, or as soon thereafter as his services can be spared, is granted Captain WILLIAM H. ARTHUR, assistant surgeon. Par. 1, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

By direction of the Secretary of War, the leave of absence, on surgeon's certificate of disability, granted Captain LOUIS M. MAUS, assistant surgeon, in Special Orders 4, January 6, 1890, from this office, is extended six months, on account of sickness. Par. 16, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

By direction of the Secretary of War, leave of absence for four months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri, is granted Captain WILLIAM H. CORBUISER, assistant surgeon. Par. 4, S. O. 162, A. G. O., Washington, D. C., July 14, 1890.

Leave of absence for one month, to take effect the 30th instant, is granted Colonel CHARLES PAGE, assistant surgeon general, medical director of the department. Par. 3, S. O. 91, Department of the Missouri, St. Louis, Mo., July 14, 1890.

By direction of the Secretary of War, leave of absence for two months is granted Captain JOHN F. PHILLIPS, assistant surgeon. Par. 4, S. O. 164, Headquarters of the Army, A. G. O., Washington, D. C., July 16, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 19, 1890.

AUZALL, E. W., assistant surgeon, detached from U. S. S. "Galena" and wait orders.

ECKSTEIN, A. C., surgeon, granted leave of absence for month of August.

PENROSE, T. N., medical inspector, granted leave of absence for two weeks.

CABELL, A. G., passed assistant surgeon, granted leave of absence for the month of August.

ASHBRIDGE, RICHARD, passed assistant surgeon, granted one month's sick leave.

HEYL, T. C., surgeon, granted leave of absence for the month of August.

COOKE, GEO. H., medical inspector, detached from Navy Yard, League Island, and to the "Pensacola."

WHITE, C. H., medical inspector, detached from the "Pensacola," proceed home and wait orders.

HOCHLING, A. A., medical inspector, detached from Naval Hospital, and to League Island Navy Yard.

WELLS, H. M., medical inspector, detached from Museum of Hygiene and to Naval Hospital, Washington, D. C.

WHITEFIELD, JAMES M., assistant surgeon, ordered to U. S. S. "Ajax" and other Monitors.

WOOLVERTON, T., medical inspector, ordered to the U. S. S. "Philadelphia."

LOVERING, P. A., passed assistant surgeon, detached from the U. S. R. S. "Wabash" and to the U. S. S. "Philadelphia."

BAILEY, T. B., assistant surgeon, detached from the U. S. R. S. "St. Louis" and to the U. S. S. "Philadelphia."

WHITE, S. S., passed assistant surgeon, ordered to the Marine Rendezvous, San Francisco, Cal.

OBITUARY.

DANIEL WATERHOUSE NILES, M.D. M.M.S.S.

Dr. Daniel W. Niles died at his residence, in Worcester, Mass., July 17th, after a short illness, aged sixty-three years. He obtained his diploma at Dartmouth Medical School, and soon after settled in Worcester. The deceased was a veteran of the war, having enlisted in the 19th Massachusetts unattached. He was also a member of George H. Ward Post 10, Grand Army. He was a member of the Worcester District Medical Society and the Massachusetts Medical Society. About a dozen years ago he was city physician for one year.

BOOKS AND PAMPHLETS RECEIVED.

A Study of the Hygienic Condition of our Streets. By Charles N. Dowd, M.D., New York. Reprint. 1890.

The Annual Statistics of Manufacturers, Massachusetts, 1889. Public Document. Boston: Wright & Potter, State Printers. 1890.

Transactions of the South Carolina Medical Association. Fortieth Annual Meeting held in Laurens, S. C., April 23 and 24, 1890.

Publications of the Johns Hopkins Hospital. Description of the Johns Hopkins Hospital. By John S. Billings, M.D., Baltimore. 1890.

A Case of Locomotor Ataxia Associated with Nuclear Cranial Nerve Palsies and with Muscular Atrophies. By Frederick Peterson, M.D. Reprint. New York, 1890.

Leçons Cliniques sur les Maladies de l'Appareil Locomoteur (Os, Articulations, Muscles). Par le Dr. Kirmisson, Professeur Agrégé de la Faculté de Médecine, Chirurgien de l'Hôpital des Enfants Assistés, Membre de la Société de Chirurgie. Avec 40 figures dans le texte. Paris: G. Masson, Éditeur. 1890.

A Digest of Current Orders and Decisions, with Extracts from Army Regulations, Relating to the Medical Corps of the United States Army. Compiled under direction of the Surgeon-General by Charles R. Greenleaf, Major and Surgeon, United States Army. Washington: Government Printing Office. 1890.

Transactions of the American Pediatric Society, First Session, Washington, D. C., September 20th, and Baltimore, Md., September 21, 1889. Together with the Proceedings of the Meeting for Organization held in Washington, D. C., September 18, 1888. Edited by Wm. Perry Watson, A.M., M.D., Recorder. Vol. I. Printed by J. B. Lippincott Co. 1890.

Clinical Diagnosis: The Bacteriological, Chemical and Microscopic Evidence of Disease. By D. Randolph v. Jaksch, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic in the German University of Prague. Translated from the Second German Edition. By James Cagney, M.A., M.D., Demonstrator of Anatomy at St. Mary's Hospital Medical School, etc. With an appendix by William Stirling, M.D., S. D. Brackenbury Professor of Physiology and Histology in the Owens College, Manchester, etc. With numerous illustrations (partly in colors). London: Charles Griffin & Co. Philadelphia: J. B. Lippincott Company. 1890.

Lecture.**INFLUENZA IN MASSACHUSETTS.¹**

BY GEORGE B. SHATTUCK, M.D., OF BOSTON.

WORCESTER COUNTY.

THIS county occupies the heart of the Commonwealth, and stretches across it from north to south. Though studded with manufacturing towns, it has a larger agricultural population proportionately than the counties previously considered. It may be regarded as a more homogeneous area than such counties as Barnstable or Bristol or Essex or Middlesex. I have tabulated twenty-seven returns from manufacturing companies, banks, etc., covering 11,405 employees.

The returns indicate that the epidemic affected Worcester County in general later than those counties we have already gone over to the east of it. The earliest first case is returned from Clinton, the Bigelow Carpet Works, December 16th, but the maximum week was the second week of January; and the Lancaster Mills, at the same place, reports the first case December 26th, with the same maximum week; West Upton reports a first case December 21st, but as a maximum week the third week in January; and a factory, in the contiguous town of Grafton, reports its first case January 9th, with the third week of January also as the maximum week. A shoe shop in Worcester reports a first case December 23d, and a maximum week January 4th to 11th; but the first case at the bank which reports was December 30th; and at the Loom Works, 500 employees, January 1st; a Worsted Company in Fitchburg reports its first case December 20th, but its maximum week the second week of January; and another company in Fitchburg dates its first case January 1st, and its maximum week the third week of January. Fourteen first cases are dated between January 1st and 10th, and the others in the last days of December. Eight returns give the third week of January as the maximum week, and fourteen the second week, one gives the fourth week.

The percentages of those attacked vary from 60% to 5%, and of those absent from work from 60% to "very few" — that is, less than 5%.

The Cotton Manufacturing Company of West Boylston, with 226 employees, reports "only one case, and that early in January." The average absence from work was between five and six days.

Medical Returns. — I have tabulated sixteen medical returns from thirteen different towns. The earliest first case, December 15th, is from Grafton, where the manufacturing company dated its first case January 9th, but the maximum week was the second week of January. Five returns — one each from Westborough, Worcester, Clinton, and two from Fitchburg — date the first cases December 20th; the other returns vary from December 22d to January 3d, this latter another return from Fitchburg. Ten returns name the second week of January as the maximum week, and four the third week.

The estimates of the percentages of population affected vary from 90% to 10%. Of two returns from Worcester, one says 90%, and one 50%; of three returns from Fitchburg, one says 65%, one 25%, one 10%; the medical examiner at Gardner, near Fitch-

burg, estimates 80% for his district. The average is 48%.

Sex. — Twelve reply males, and two females.

Other Diseases. — Twelve say that pneumonia was increased, one that pulmonary diseases were increased, and one that whooping cough was more fatal.

The next belt of the State to the westward may be regarded for our purposes as made up of three counties, Hampden, Hampshire and Franklin — in that order from south to north. The centre of these counties is traversed by the rich farming lands of the Connecticut River Valley, and the abundant streams from the hills are utilized for manufactures.

HAMPDEN COUNTY.

I have tabulated twelve returns from factories and banks in this county, employing between four and five thousand people. A Springfield Bank and a Holyoke Bank (the only banks sending returns) report "no sickness"; the Holyoke Blanket Company reports, "few sick at any time and did not interfere with work"; and the Germania Mills (Cotton), Holyoke, report "no loss of time from influenza"; but two thread companies at Holyoke report first cases December 24th and 26th, and the second week of January as the maximum week. A Firearms Manufacturing Company at Springfield, 213 employees, reports its first case January 1st, its maximum the second week of January; 10% affected, 5% absent an average of nine days.

No return from this county gives any earlier maximum week than the second week of January; but there is a report of a first case from near Palmer, December 18th, one from Ludlow a little farther west, December 20th, one from Chicopee — again, a little farther west — December 24th, but the other return from Chicopee gives January 1st as the first case.

There are some apparently more than usually accurate and interesting returns from a Duck Company at Palmer in the eastern part of the county, employing 325 hands. The first case in the dressing shop is reported December 30th, and the maximum week the second week in January; but the first case in the bleaching department did not appear until January 7th, and the maximum week in that department was the fourth week of January. In all the departments except the dressing, the first case was some time during the first week of January, and the maximum week was in seven departments the second, in one the third, and in one the fourth week of January. In the bleaching 87% were affected and 75% absent an average of five days; in the dyeing 80% were affected and 35% absent an average of six days; in the iron repair shop 75% were affected and absent seven days; in the weaving 66% were affected and absent an average of six days; in the other departments there were considerably less; and least, 25% with an average of four days, in the spinning.

Medical Returns. — I have tabulated thirteen medical returns from eight different towns in Hampden County. The dates given for first cases range all the way from October 6th in Monson, at the southeast extremity of the county, to December 26th at West Springfield and Holyoke in the northwest, and are so varied and unreliable that no conclusion can be based on them. One return from Palmer gives the date of the first case December 1st, but states that influenza did not become general until after Christmas. This

¹ Delivered before the Massachusetts Medical Society June 10, 1890. Concluded from page 77 of the Journal.

agrees with the factory returns and is probably the true interpretation of the medical returns; the maximum weeks given indicate the same thing; as do three different Holyoke returns dating first cases December 1st, 20th, 26th, but all giving the first week of January as the maximum week.

Seven returns name the second week of January as the maximum week, five the first week, one the third week. The percentages of affected vary from 75% to 20%, and the average of eleven returns is 44%. One practitioner profited, apparently, but little by the epidemic, as he reports that only one-fourth of 1% among his clients were affected.

Sex. — In this county eleven returns state that males were most affected. One return says: "especially out-door laborers"; one says: "male, those outdoors"; one says: "the careless, and those who tried to keep going every day about their business and work."

Other Diseases. — Eight returns state that pneumonia was increased and one that pulmonary diseases were; three (one from Springfield and two from Holyoke) report malarial complications; one return from Holyoke says it resembled "dengue."

Dr. A. F. Reed, of Holyoke, writes: "Bronchitis was common in most cases, but the most prominent influences seemed to be a union of rheumatic and malarial forces in a hybrid action, and in my experience quinine failed to give as good effects as salicin."

HAMPSHIRE COUNTY.

From this county I have tabulated thirteen returns from manufacturing companies, employing about 4,000 people. There is one return of a first case about "December 1st," one December 9th, one December 13th, one December 15th; but the maximum week in all of these returns is the second or third week in January. A factory in Northampton reports its first case January 1st and its maximum week immediately thereupon — the first week of January; but the first case at the Northampton Bank did not occur till January 5th. A silk company at Florence reports the first case December 9th; but a braid company at the same place reports its first case January 6th and its maximum week the second week of January; the same maximum week as that given by the silk company. From the silk mill 20% were affected and absent an average of eight days, and from the braid mill 25%, an average of four days. Eight returns give the first case between December 25th and January 7th; nine returns name the second week of January as the maximum week, and three the third week. The percentages of those absent from work vary from 60% to 5% and the time about six days.

Medical Returns. — I have tabulated eleven medical returns from seven different towns in Hampshire County. The dates of first cases vary from December 15th to January 1st. From Ware three returns date the first case December 20th, 27th, 28th. From Northampton three returns date the first case December 15th, 18th, 29th. One return names the first week of January as the maximum week, but all the others name the second week. One Northampton return gives 10%, one 25%, and one 75% as the proportion of the population attacked. One Ware return says 10%, one 33%, and one 40% as the proportion of the population affected. The Easthampton medical return says 60% of the factory employees, but 40%

of other population. The average of ten returns is 39%.

Sex. — These returns throw little light on sex. One return says, both sexes were most affected.

Other Diseases. — Six returns say pneumonia was increased, one specifying lobular pneumonia. One return from Northampton says: "there was no pneumonia, and all other diseases appeared to be abolished; there was one death from delirium." In regard to this Dr. Seymour, medical examiner, reports the following:

"A man, thirty-two years of age, had influenza at his home in Springfield. He got out of bed, dressed and came to his parent's home here in a state of delirium. He left their house at 2 A. M., and was found wandering about the streets by a policeman, who took him to the station house. There he remained in a wild delirium until 8 A. M., when, as he became silent, the keeper went to visit him and found him dead. I viewed the body and these were all the facts I could ascertain."

FRANKLIN COUNTY.

This county, the most northern of the three occupying the breadth of the State, is somewhat less thickly settled and less traversed by railroads than the two preceding. The manufacturing returns are scanty, and I have only tabulated one as apparently accurate.

The Russell Cutlery Company at Turner's Falls, at about the centre of the county on the Connecticut River, returns its first case January 6th, its maximum week the second of January, and 33% of its employees were affected and absent an average of 6 days.

Medical Returns. — I have tabulated five medical returns from five different towns. Three returns from the eastern part of the county, from Orange in the centre, Cooleyville at the south and Northfield at the north, give the first cases December 26th, January 1st and December 23d respectively, and the maximum weeks as the second for the first two, and the third week of January for the last respectively. The medical return for Turner's Falls reports the first case December 26th, the return for Shelburne Falls farther to the west reports the first case November 15th; both of these returns name the second week of January as the maximum.

The percentage of populations affected according to these five returns varies from 75% to 50%, the average is 66%.

Sex. — Three returns state that males, and one that females suffered the more.

Other Diseases. — Two returns state that pneumonia was increased.

BERKSHIRE COUNTY.

This county occupies the extreme western belt of the State from south to north. It also is less thickly settled than other counties, and communication between many townships is less immediate and direct than is the case in some of the other counties. There are, however, a good many manufactories within its borders.

I have tabulated returns from 16 factories, employing nearly 5,000 people. A company at Housatonic in the southern part of the county, and one at Adams in the northern part, return the earliest first cases, December 25th and December 30th respectively; the maximum week for the former being the first, and for

the latter the third week of January. Seven first cases are dated January 1st, two January 6th, one January 7th, one January 8th, one January 15th, one January 18th. One return names the first week of January as the maximum week, four the second week, nine the third week, and one the fourth week. No conclusions as to sex can be drawn from returns in this county. One return says "neither or both."

The percentages of the affected vary from 75% to 5% with an average of 45%, and of those absent from work from 50% to 3%, with an average of 22%, for an average of 5½ days.

The Arnold Print Works at North Adams reports "the epidemic did not cause any serious annoyance" among its 146 employees. This is striking, for of the two other manufacturers reporting from North Adams one had 50% of its employees absent, an average of six days, and the other 25%, an average of four days.

Medical Returns.—I have tabulated sixteen medical returns from nine different towns in Berkshire County. I am obliged to conclude that they are not of much value in determining the time when influenza assumed an epidemic character in this part of the State. The dates of first cases vary all the way from October 14th, at Montville, to January 8th, at Otis, neighboring towns in the southeastern corner of the county. At Montville the maximum week is reported to have been the third week of November. Evidently again a local outbreak. Two returns from North Adams each give December 15th as the date of the first case, the second week of January as the maximum, and 50% as the percentage of population attacked. Of three returns from Williamstown, next to North Adams, two date the first case January 1st, and one December 19th; the maximum week of one of the first two and of the last being the second week, the maximum week of the other being the third week of January. But the returns from Pittsfield are still more perplexing, of five returns, one dates the first case November 20th, one December 15th, one December 17th, one December 27th (this return mentions having seen a case November 27th), one January 5th, and the maximum weeks vary almost as much. From Sheffield, in the southwestern corner of the county, the first case is reported December 15th, but the maximum week did not arrive until the fourth week of January.

The percentage of population affected vary from 87% to 10%, with an average of 60%.

Sex.—Eight returns state that males, and three that females were more affected; one return says: "men complained the most, because it was their nature to, but women were really as sick."

Dr. S. C. Burton, Chairman Pittsfield Board of Health, writes January 26th: "In our House of Correction, of which I have medical charge, there were 105 prisoners; of these 96 males, 9 females. Ventilation to the male prisons by windows on the north and south side, to the female prison by windows on the east and west side. The windows in the male prison were open most of the time. The hall man was the first taken sick January 11th, the following day twenty-four men were sick, the next morning eight were too sick to go to the shop. January 14th twenty more were taken sick, and one or two a day afterwards, until the number reached fifty-six, all males; not a single case in the female prison."

Other Diseases.—Nine returns state pneumonia was increased; two that pulmonary diseases were increased; one that capillary bronchitis was increased.

SUMMARY OF GENERAL CONCLUSIONS.

Some of these returns are evidently quite accurate, and some mercantile returns and those of some public institutions, as well as a much smaller proportion of those of physicians, are based upon carefully kept records; other returns are only approximately correct; and still a third and not small class are mere guesses, which gain such value as they possess from the probability that the errors counterbalance each other.

In drawing conclusions, I have considered the date of maximum weeks of more importance than the dates of first cases.

The data furnished for Suffolk County by such sources as the Massachusetts and City Hospitals, the State Prison, the Post Office, the two large private banks quoted are probably pretty accurate; as are the returns from the Pacific Mills (Cotton and Prints), Lawrence, Essex County, 4,200 employees; and from the Pemberton Cotton Mills, at the same place; and from the Merrimack Mills (Cotton and Prints), Lowell, Middlesex County, 3,200 employees; and from the Bigelow Carpet Mill (Wools), Clinton, Worcester County, 1,050 employees; and from the Palmer Duck Company, Hampden County, 325 employees.

From these, collated with the mass of less evidently reliable returns which I have tabulated but not read, one may, perhaps, conclude that:

I. Influenza appeared first in epidemic form at Boston and its immediate vicinity; that the epidemic dates there from the middle of December, although there were sporadic cases earlier; that it culminated during the week between December 28th and January 4th; that it began to decline pretty rapidly from that date, although its after-effects still exhibit themselves in many forms.

II. That the epidemic was from ten days to two weeks later at the Island Counties (Nantucket and Dukes) than at Boston; that it was about a week later in Barnstable and Bristol Counties; and a few days later, perhaps, in Plymouth and distant parts of Norfolk Counties.

III. In the northern parts of Essex and Middlesex Counties, the epidemic was from five days to a week later than at Boston. Most of the towns reporting in these counties, especially in Bristol, Essex and Middlesex, are in constant, rapid and easy communication with Boston by frequent and crowded daily trains.

IV. It is difficult to explain why these counties were attacked later than Suffolk, and at the same time why Nantucket and Dukes were attacked still later than these counties. Neither a miasmatic wave, nor contagion, nor yet the two combined, as we understand them, cover all the observations.

V. The epidemic, apparently to some extent, radiated out from Boston as a first centre. That it behaved in the same way with regard to the surroundings of other centres of population, notwithstanding the suggestive report of the medical examiner at Ayer Junction, and notwithstanding similar propositions made elsewhere, I cannot satisfy myself from these returns. Except at a larger centre of population, it is not apparent why Boston should have been attacked before other points as far east on the coast; as a

centre of population, it is not apparent why it should have preceded New York; and neither geographically nor as a centre of population, why it should have anticipated London.

VI. With many puzzling local variations, backward and forward, and many contradictions, the returns indicate a later development as we proceed westward in the State, until in Berkshire County we find the epidemic developed fully two weeks later than in Suffolk; several days (four to five days) later than in Worcester; and about as much later than in the two Island counties to the extreme east.

VII. To judge from the returns of public institutions and of manufacturers, at least 40% of the adult population was seriously enough affected to have occupation interfered with. The medical returns, which necessarily are often guesses, agree with this. A considerably larger percentage probably was attacked.

VIII. The returns from two maritime counties indicate that exposure to atmospheric influences was an important factor, and men were more affected. On the other hand, where men and women were equally confined within doors by their work, as in mills, the women were both more seriously and more numerously affected.

IX. Returns from the McLean Asylum, the Massachusetts Hospital, the Boston Children's Hospital, the Tewksbury Almshouse, indicate that officers and nurses were more attacked than patients, an observation which corresponds with others elsewhere, here and in Europe.

X. In studying the returns of different mills one meets with singular cases of immunity from or predisposition to the epidemic. It is a curious anomaly, that one cotton mill should have less than half of one per cent. of its employees affected, and another 60%; that a silk mill should have 60% affected, a woollen mill in a contiguous township 15%, and a cotton mill in the next township 6%. The percentage of affected at several of the woollen mills is quite small, but this is not invariable, at others it was as high as 40%.

At print works there was a great variation in the percentages in different departments. From the Merrimac Manufacturing Company of Lowell, which kindly sent me special figures, I learn that the "departments having a hot, moist atmosphere were subject more severely to the effects of the disease, which was also more prevalent among the women and boys than among the men. The high percentage of the color shop (16%) was due more to the unhealthy nature of the room (which is cold and very draughty) than to the noxious influence of the chemical fumes. Such places as the print room (one case out of 55), indigo dye-house (no case out of 20), laboratory (no case out of 12), where the fumes from the drugs and chemicals are most conspicuous, were, comparatively speaking, free from any attack by the epidemic."

At the paper mills, where many operatives are exposed to a warm, moist atmosphere, the percentage of affected was, as a rule, low. How far this was accidental, or how far due to chloride of lime or other materials used in bleaching, may be queried. At the bleacheries of print works about 30% were attacked. At the bleaching room of the Palmer Duck Company 87% of the employees were attacked.

The Arnold Print Works at North Adams reports that the epidemic "did not cause serious annoyance"; whereas the Greylock Mills (woollen) at the same

place reports 75% attacked, and 50% absent from work an average of six days.

The Merrimac Print Works (all departments included), Lowell, had 18% affected; The Pacific Mills Print Works, Lawrence, had 29.50% affected; the American Print Works, Fall River, had 33% affected.

XI. Pneumonia was undoubtedly much increased in frequency during the influenza period all over the State. As to the character of the pneumonia—whether lobular or lobar; croupous, fibrinous or catarrhal; whether mistaken for capillary bronchitis—these returns give little information, and one must consult special papers—such as those read April 17, 1890, before the New York Academy of Medicine by Drs. F. C. Shattuck, E. G. Janeway and William Pepper.

XII. Some of the returns indicate that the presence of epidemic influenza was inimical to ("drove out") other forms of disease—as diphtheria and scarlet fever.

In the Connecticut River Valley, as might have been anticipated, it seems to have taken a malarial character.

XIII. To fit the mode of progression of the atmospheric disease wave—if the epidemic was dependent upon a miasmatic poison—with recorded observations in Europe and America, will tax the utmost ingenuity of the scientific meteorologist.

XIV. The epidemiologist will be quite as much perplexed if he seeks to explain all the phenomena by contagion.

I have endeavored to collate carefully returns as made, and to follow honestly where they seemed to lead without prejudice, and without regard to previous mental predispositions. When the returns seemed to offer no exit I have said so. Some errors have doubtless crept in, and some obvious lessons may have been overlooked. The picture, however, has not been varnished at the expense of truth.

The results are meagre enough, but they have yet to be compared with others before we quite despair of reaching some definite knowledge of epidemic influenza. The bacteriologist has failed to help us, and we must still struggle with the intricate problems presented without the aid of a specific micro-organism.

Under date of January 5, 1890, Hirsch, the distinguished Berlin epidemiologist, writes in answer to the editor of the *Deutsche Medicinische Wochenschrift*:

"I am persuaded that the present epidemic differs in no essential particular from those hitherto described. The great interest which the outbreak of this disease has excited is to be explained simply by the indifference of the great mass of the medical public to everything taught by history. . . .

"Whatever I had to say about influenza I have said in the second edition of my historico-geographical pathology, and nothing new has presented itself."

—The medical department of the University of Vermont at Burlington has adopted a requirement for a three years' course of study and lectures, instead of two, as formerly. And as a prerequisite, students, upon entering hereafter, will be required to pass an entrance examination, which shall be equivalent to the examination "required of such medical students by the board of regents of the University of the State of New York."

Original Articles.**THE NECESSITY FOR SOCIAL AND STATUTE RECOGNITION OF SYPHILIS.¹**

BY C. IRVING FISHER, M.D.,

Superintendent of the State Almshouse, Tewksbury, Mass.

The present is a time for the facing and discussing of social problems. The spirit of true philanthropy is abroad, and subjects, which a few years ago might not be mentioned in polite society, are to-day engaging the attention of able men and women throughout the land.

Crime and pauperism, which seemed to have little interest for the honest, law-abiding, self-supporting citizen, are now being studied from entirely new standpoints. The fact is being recognized that mental and moral blight have their basis in disordered physical conditions, and are often the result of immorality transmitted through lines of inheritance. "The fathers have eaten sour grapes, and the children's teeth are set on edge."

Students and lawmakers alike have ignored the fact that syphilis is present in every community, that it is an underlying factor of weakness in a large per cent. of the defective classes, that is, epileptics, feeble-minded, paupers, and low-grade criminals, and that the physical taint is the essential cause of the mental and moral degeneration.

That it is not confined to the lower strata of society is well known to every physician, for in the very highest social circles he meets and treats those who show unmistakable evidence of defection from the paths of moral rectitude; sins, perhaps, of long ago, but which no amount of repentance can eradicate from the bodies of helpless ones to whom its effects have been communicated.

Every other serious infectious disease has been fenced in with legal enactments. A man with leprosy, yellow fever, small-pox, etc., is by law shut out from contact with others, nor can the physician with impunity withhold from the proper civil authorities the fact that such diseases exist in his practice.

For every other disease requiring prolonged and specific treatment, numbers of hospitals have been established by both public and private charity, but I know of not one that is open to receive syphilitic patients as such. This is, perhaps, because the disease is the consequence of the violation of both divine and civil law. Public sentiment is not in sympathy with disregard of common morality, and is willing that the sufferer should reap the full harvest of his wrong doing. While this may be logical so far as the chief sinner is concerned, we seem to have lost sight of the fact that the penalty does not end with him. The sins of the parents visited upon the children run on countless lines of defect and pain, and the best forces of the community are being drawn upon for the care of these impotent ones in homes, hospitals, retreats and almshouses.

That these conditions have so long existed undisturbed, is due to the fact that the mass of thinking people, those who mould the best sentiment of the community, are unfamiliar with the disease. They scarcely know its name, and its wide-spread and disastrous prevalence are wholly unthought of. Enlight-

enment in these lines must come through the physicians. To them alone will the public lend a listening ear on such matters as these.

We have treated our patients, have discussed the various phases of disease with one another and in our exclusive and technical medical journals, but we have neglected golden opportunities to inform the public of its insidious nature and far-reaching destruction. Youth has been unprotected and parents unwatchful, because ignorant. Our work has been chiefly curative. It should be broadened, and become educational and preventive.

We who, in our daily walk, see on every hand what others do not see, the finger-touch of this monster evil, should "cry aloud and spare not," until our lawmakers are forced to give us such enactments as shall enable us to hold in check "this pestilence that walketh in darkness, this destruction that wasteth at noon-day."

"It is folly to exterminate diphtheria and small-pox and typhus, and let syphilis, the most prolific mother of evil of them all, send forth her brood of whelps to be the cause of more bodily and mental misery than all other shapes of human error combined." *

It is made obligatory on the part of physicians to report to the proper civil authority the existence in their practice of such contagious diseases as small-pox, diphtheria, etc., and persons so affected are strictly quarantined, and are not given their liberty until, in the opinion of the attending physicians, they are no longer liable to spread contagion. These maladies are in no way associated with dishonor or impurity. They may wipe out their victims from the face of the earth, but they leave no taint to be transmitted to descendants.

If the State has a right to take into its custody one citizen, because he has a disease which is dangerous to other members of the community, it has certainly the right to take another into its custody whose disease is not only dangerous to the present, but most woefully so to future generations, and which is developed and perpetuated by the voluntary violation of both divine and civil law. Yet syphilis, which in some of its manifestations is more loathsome than small-pox, which is an destructive, infectious and far-reaching as leprosy, which probably causes more deaths annually than all the epidemics which visit our land, is not recognized upon the statute book.

It does not appear as the cause of death upon the physician's certificate or books of statistics, because the practitioner does not always recognize it, or because out of kindly consideration for the friends of the deceased, he writes instead the name of the complicating trouble. "Rheumatism is written over the graves of strong men crippled in their prime; scrofula hides the secret sin of the parent stamped upon the slender frame of the invalid child; cancer is the foul lie buried with the wife, who has silently suffered the most excruciating agony which human flesh can endure." * If the impossible were possible, and we were able to gather the statistics regarding this disease, they would, I believe, be more appalling than any medical statistics ever presented.

"Grant that the individual may play what havoc he

¹ Read before the Massachusetts Medical Society, Suffolk District, Section for Clinical Medicine, Pathology and Hygiene, May 21, 1890.

* The quotations marked with an asterisk (*), on this page and the following one, are from the address entitled "Protection from Venereal Diseases," by Albert H. Gilson, Medical Director, U. S. N., before the American Public Health Association, at Nashville, Tenn., in 1879.

chooses with himself and his happiness, society has the right to demand that self indulgence shall bring no evil to a single other being than the transgressor." "No one questions the contagiousness of syphilis, or that its spread is the result of personal contact, and by what right any man or woman suffering with it may not only live in freedom, but actually solicit victims, it is difficult to understand." *

My point of observation has been among the low-grade criminal classes for four years and a half at the Deer Island Institutions, and for nearly seven years at the State Almshouse at Tewksbury. It is my fortune to-day to be caring for men and women, in the latter place, whom I began to care for more than nineteen years ago in the former place. Then they were active sneak-thieves, drunkards and prostitutes, now they are the "worthy poor" for whom the majority of good citizens think we "cannot do enough." The State Almshouse has a constant population of nearly 1,000 people. Last year, of 2,009 persons admitted to the institution, 1,721 were sent to the hospitals. Large experience in handling these people has led us, in our medical work, to make a thorough physical examination for evidences of syphilis, whatever the history given or symptoms complained of. We have found that many cases of rheumatism, paralysis, neuralgia, etc., respond to the orthodox remedies only, when they are combined with iodide of potash, or the green iodide of mercury.

During the year ending March 1, 1890, there were admitted to the hospital 1,058 men. Of these one had congenital syphilis; 54 had primary or secondary lesions well marked; while 496 had tertiary symptoms more or less active—a total of 551 syphilites, or more than 52% of the whole number admitted. The statistics from the female hospital are not given, because the specific examinations were not instituted there until later, and do not cover a whole year. I believe, however, that the above figures would not be materially changed were all the hospital departments included.

Next to intemperance, I hold that syphilis is the most important factor in the development and perpetuation of the dependent classes. There is not a tissue of the body which is exempt from its subtle and undermining influence. It renders the system more liable to other diseases, behind which it hides itself as under a mask. It is ever present as a factor of depression, weakening the will, lessening the vigor of manhood, and lowering the sense of responsibility. Whatever may be said of the curability of syphilis, it is practically incurable in the classes with whom I am in contact. They do not appreciate the nature of the trouble, nor will they, outside of a hospital, observe any of the conditions necessary for permanent relief. A large number go in and out, invariably improving while under medical observation, but degenerating rapidly when away and dependent upon their own resources. Finally, they come back to the almshouse with exhausted powers, to drag out a useless existence at public expense. Many of the children born in our hospitals show unmistakable evidence of syphilis which was not present in the mother, and which shows all too surely the character of those who beget illegitimate children. Pitiable indeed are these weak and sickly offspring of poisoned human bodies, and we can but cheerfully acquiesce in the interposition of Divine Providence which removes them from our sight and

care while the unequal struggle for existence has just begun. If these children survive the diseases of childhood and the neglect of ignorant or dissolute mothers, they, as a rule, go to swell the ever-increasing army of dependants which the State must carry as a dead weight, and at the maximum cost.

To protect the innocent and helpless, and to check this ever-increasing burden upon the State, legislative action must be secured. But legal enactments will be successful only as they are the outgrowth of public opinion. The mind and conscience of the community must be enlightened and awakened. We who must stand as educators need not only courage, but tact to engage the attention and active co-operation of the leaders of thought. Those of us who are connected with hospitals, or who hold intimate relations with the trustees of such institutions, have special opportunities for initiative work.

I believe the most rational approach to the object desired would be to secure the free admission of this disease to every municipal hospital and dispensary. In some of the larger cities special hospitals might be established. This would accomplish two things. (1) Some having the disease might be brought under treatment before their constitutions were so thoroughly undermined that they must be permanent dependants. (2) Statistics would be secured which could be used as educational factors, and so pave the way to such legislative enactments as the gravity of this disease demands.

Adequate legislation will meet with some obstacles, however. A law which may touch the pleasure of some who indulge in crime behind the screen of wealth and respectability; a law which may put to shame some in places of influence by bringing their secret sins to the light of day; a law which in its execution may bow with grief worthy families because some honored and esteemed one is shown to be untrue and impure—such are not easy of enactment.

But this, at least, may be secured,—that persons who have come under State control, whether as criminals they have been committed to some criminal institution, or have thrown themselves upon town, municipal or State bounty for support, if found to have syphilis, shall not be allowed to go out until the infectious stages are past, and they have been under medical observation and treatment for a specified time.

This would secure two things: (1) It would prevent not a small number of men and women from going out of the houses of industry, jails and almshouses, and communicating the disease to others. (2) It would send men and women out in a fair degree of health and strength, able to earn a living and properly care for themselves, which is not the case under existing law and custom. To my personal knowledge, within a year two syphilitic women have gone out from the State almshouse, and have married—one having the initial lesion. Again, I have learned of a woman under sentence in one of our State prisons. She was young, with a pretty face and pleasing manner. She attracted the notice and won the confidence of certain visitors. They interested themselves in her behalf. They could not see what the physician saw, the vile taint under the fair exterior. Mistaken philanthropy prevailed, and the woman was pardoned—virtually, though not nominally, released on the ground of good looks. She went out, and in a few weeks had communicated her disease to many persons.

Only day before yesterday there came to the almshouse, to visit her crippled, syphilitic child four years old, a well-dressed and, to all appearances, a healthy woman. She is a domestic in some home in this city. My conversation with her revealed the fact that the father of the child was a worthless fellow — she was not married — and that she had had a sore upon her lip, and later a sore mouth and throat, and that some physician had treated her, as she expressed it, for "the disease."

I would submit the following form of enactment, as suitable to be presented to our legislature for its consideration :

An Act to prevent the spread of syphilis by paupers and criminals.

Be it enacted. That any inmate of any criminal or public charitable institution, who has syphilis, shall at once be placed under medical treatment and observation; and such inmate shall not be discharged therefrom until three months after all infectious symptoms have disappeared.

This act shall not be construed to apply to any institution supported by private charity.

These suggestions include only those lines along which it seems practicable to act now. Some European governments have already established protective methods. New questions will arise here as public thought and feeling advance. As a step in educational work, why should it not be made obligatory upon the physician to place in the hands of his patient circulars regarding syphilis, such as are now furnished by boards of health relative to small-pox, diphtheria, scarlet fever, etc., telling the people how to care for the patient, and its dangers present and future?

We see this disease and its relations to the public welfare as no one else does or can. This work is a closed door to others. The key to the situation is in our hands. Every added knowledge brings an added duty and obligation.

How often have we treated our syphilitic patient, knowing well his condition and the disastrous results which must come in the marriage relation he was about to consummate; counting it "professional honor" to hold his dissolute secret, and sounding no word of warning to the healthy, honorable and innocent woman he was to marry — perhaps not even urging upon him the gravity of the situation, pointing out its far-reaching consequences, and appealing to his manhood to take the only honorable course, and spare the innocent and helpless?

How much longer shall we remain silent?

I believe the time will come when "professional honor" will have no part in holding the secret of one immoral, or even unfortunate, man or woman, when it is to bring disease, weakness, suffering and death to an unknown number of their offspring. The honorable majority of noble mothers and innocent children have rights which are not to be set aside by the dissolute minority.

The facts presented, however unpleasant, are facts none the less; and this disease must sooner or later receive the recognition which all other serious infectious diseases have received. The State will yet put its restraining hand upon the dissolute and vile, and exercise its legitimate power to preserve inviolate the manhood and womanhood of its citizens.

— The Mesopotamian epidemic of cholera has commenced to spread northwards towards the Black Sea.

REPORT ON DISEASES OF CHILDREN.

BY T. M. BOTCH, M.D.,
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Physician to the Children's Hospital.

WINCKEL'S DISEASE.¹

AN endemic of acute haemoglobinuria in newly-born children was observed by Winckel, at Dresden, in 1879, the symptoms being cyanosis, icterus, hemorrhages from various organs, dark red discoloration of the renal pyramids, which contained streaks of haemoglobin, and fatty degeneration of the liver and other organs. Nineteen of the children died on an average within thirty-two hours after the beginning of the symptoms.

A few other cases have been reported by various observers, the last one being that one recently carefully studied by Hirst (*University Medical Magazine*, March 18, 1890) which occurred in the maternity pavilion of the University Hospital, Philadelphia. Labor was induced in the mother of the patient sixteen days before term, but was normal in other respects. The child, a female, appeared well-developed and was not asphyxiated. On the following day blisters were found on the legs and buttocks, probably the result of burning by hot-water cans. On the day succeeding this the body presented a brownish-green color, evidently a combination of cyanosis and icterus. The urine was of a dark red color, and contained methemoglobin. Inhalations of oxygen relieved the cyanosis to a considerable extent, but on the fifth day the child died.

Temperature was normal until the fourth day, when the thermometer registered 102° F.

On examination of the blood the red cells numbered 5,700,000. Three days later they equalled 3,400,000 the ratio of white to red being 1 : 13.5, and the hemoglobin eighty-nine per cent. Poikilocytosis was well-marked. Bacteriological studies of the blood revealed the presence of the micrococcus.

At the post-mortem examination the body was found emaciated, and with an icteric hue of the skin and mucous membranes. Several dark gangrenous-looking patches were seen, said to be the result of the contact of hot-water bottles. The lungs exhibited a large number of hemorrhagic infarcts of different sizes. The heart contained dark, fluid blood, and its muscle was somewhat degenerated. The cord and umbilicus were normal, as were the intestines and stomach. The liver seemed somewhat altered. The kidneys were cyanosed and injected. The mucous membrane of the bladder showed a number of pinpoint foci of ecchymosis. The spleen was large and congested. The mesenteric glands were enlarged and hard. Microscopic examination showed cocci in the liver, kidneys, spleen and lungs. There was some fatty degeneration of the heart muscle, and in the kidneys there was globular nephritis.

SECONDARY INFECTIONS IN SCARLET FEVER.²

The idea of a possible secondary infection has become too prevalent to allow it to pass without consideration. Chanin says that it results from penetration into the organism of a second microbe, which is added to and is distinct from the first. Before the idea of microbial infection was applied to the eruptive fevers the question had been raised whether the abnormal

¹ The American Journal of the Medical Sciences, April, 1890.

² Guinon: Rev. Mens. des Mal. de l'Enf., September, 1889 (Archives Pediatrics, April, 1890).

phenomena, appearing in the course of these diseases, was of the same nature as the primary disease, and whether they resulted from external or internal conditions; whether, in a word, they constituted a function of the primary disease or were the manifestations of another disease grafted upon the first. The discussion of this subject has, of course, a practical as well as a theoretical side. Bouchard, after studying the local manifestations in general diseases of the character under discussion, has demonstrated that the accidents and complications in these diseases are almost always new diseases, which are distinct from the original ones. The number and gravity of the complications occurring with scarlatina render it most suitable for the application of this theory. As a matter of fact, we do not as yet know the characters of the microbe of scarlatina, but we do know those of the micro-organisms which produce secondary infections in that disease. Klein, Crookshank and others have discovered micro-organisms which were supposed to be peculiar to scarlet fever, but their results are not entirely harmonious, and have not been entirely convincing. Lenhardt, Marie Raskin and BabéS, on the other hand, have studied the blood, the viscera, and the organs especially involved in the complications of scarlatina. In suppurative adenitis, Raskin found in seven cases, with or without diphtheria, a streptococcus which was constantly present. With tonsillar and pharyngeal ulcerations, Lenhardt found a thick layer of chains of streptococci, without the presence of gangrene,—that is, the streptococcus was evidently a secondary manifestation. In septicemia, occurring as a complication, absolute conclusions were not drawn. Raskin found a streptococcus and a small and oval micrococcus, but did not determine their nature nor their virulence. In the blood the streptococcus was rarely found. Raskin found it in only six cases out of twenty-three. Both Raskin and BabéS found the streptococcus, with other microbes, in connection with complicating pleurisy, pneumonia, pericarditis and endocarditis. It was believed that the bacteriology of the pericardium was identical with that of the pleura. In scarlatinal pyemia, investigators are agreed that the streptococcus is the most frequent cause, but other microbes are found at the same time in the same organ, or in the other viscera. In nephritis, an important point to be decided is, whether the microbe acts upon the kidney by itself or by the products which it secretes, and recent investigations tend to show that the former supposition is the correct one. Raskin has found and isolated in the kidney the streptococcus alone or united with a micrococcus, a diplococcus, or a bacillus, and they were also found in other organs. BabéS studied fourteen cases in which there were albuminuria and edema, and in thirteen the streptococcus, alone or associated with the pneumococcus of Talamon-Frankel was found. In scarlatinal rheumatism, three forms or varieties must be distinguished, a serous non-suppurative form, a serous suppurative form and a form in which suppuration occurs at the outset.

In the non-suppurative fluid of the synovial membrane Raskin found the streptococcus; in purulent arthritis the streptococcus may be found in great numbers. In the pus of otitis Raskin constantly found the streptococcus, and in the later stages of the disease it was associated with the staphylococcus aureus et staphylococcus albus. In diphtheria Raskin

found streptococci, diplococci, micrococci, and Loeffler, in addition to the streptococci, found also the Klebs-Loeffler bacilli.

From the foregoing it would appear that most of the complications in scarlatina are due, in all probability, to the action of a streptococcus, either isolated or associated with other microbes, and it has always presented the same character, with the exception that it varies in virulence. It is probably identical with the streptococcus pyogenes of Rosenbach, and Lenhardt thinks that it is modified in scarlatina by the primary infection. It is probably this organism which causes death in scarlatina either directly by septicemia or indirectly by nephritis. Secondary infection in this disease most frequently occurs by way of the pharynx, and the penetration of the microbes is favored by the loss of epithelium by the dilatation of the lymphatic channels, and by the recumbent position which the sick child assumes. The foregoing indicates antisepsis of the throat in all the pyrexias of childhood, but especially in scarlet fever, and before any complications occur, but caustic or irritant applications must always be avoided because of their destructive action upon epithelium.

INFANTILE HYSTERIA.³

According to Liebermeister, hysteria is the result of a functional disease of the gray matter of the brain. Hence it should be considered as a psychical disease, and not as a simple neurosis complicating psychical disorders. The view of Liebermeister is shared by other authors. They regard hysteria as essentially a psychical disease, because psychic symptoms are constantly manifest; because, in many cases, they are the first or perhaps the only symptoms which appear; because it is generally admitted that hypochondria, the analogue in the male of hysteria, is a psychosis; and because one frequently sees, as hysteria develops, phenomena which leave no uncertainty as to the psychic character of the disease. While in adults hysteria commonly shows a great complexity of symptoms, the hysterical phenomena in children are usually simple and clear.

The authors have treated, in the hospital at Basle, since 1874, hysterical children to the number of three boys and twenty-one girls, which may be divided into three groups. In the first group were the most simple forms of the disease, the morbid phenomena being merely certain modifications of character, and certain symptoms which differed little from the general disorders produced by anæmia. The second group included cases which were without violent attacks and without troubles of consciousness. In this class there was a tendency to localization of the disease, and the determination of such disorders as paresis, paralyis, contractures, localized anesthesia or hyperesthesia, precordial anxiety, aphonia, etc. In the third group were the cases which had convulsions with more or less loss of consciousness—the grand hysteria of Charcot. The following might be considered as its varieties: (1) attacks of hystero-epilepsy, or epileptiform hysteria; (2) chorea major, or rhythmic chorea; (3) spasmodus nutans; (4) tonic and clonic convulsions, usually atypical, occurring in paroxysms. With regard to etiology, it seems probable that predisposition has most to do with the origin of the disease, and this pre-

³ Hagenbach, Burchardt and Duvoisin: Rev. Mens. des Mal. de l'Enf., September, 1889 (Archives Pediatries, April, 1890).

disposition may be hereditary, whether congenital or acquired. The hereditary predisposition was observed in fifty-eight per cent. of the author's cases. In fifty per cent. of the cases there was hereditary tuberculosis. The most important predisposing conditions of an acquired character are anaemia and disorders of nutrition; all but two of the cases in the given series being anaemic. In several of the cases whooping-cough had exercised an unfavorable influence upon the constitution; in two there had been acute anterior polio-myelitis in early childhood. In eight cases fear and different local and general affections had exercised a decided influence. Of eight cases in which the first symptoms of hysteria were seen prior to the tenth year, there was hereditary predisposition in six. Of sixteen who did not become hysterical until after the tenth year, half of them had scarcely any hereditary antecedents.

If hysterical children are early submitted to medical treatment, improvement is usually observed within a short time; but the subsequent history may be unfavorable. Of twenty-two cases, fourteen suffered relapse within four years after their discharge from the hospital; and the others remained very anaemic. Of eleven who were more than seventeen years of age, and who had been more than five years out of the hospital, only one remained in good health. The others had attacks of migraine, palpitations, nervousness, psychical and corporeal weakness, hysterical psychoses, etc. In making a diagnosis of hysteria, epileptiform attacks and phenomena of simulation may cause much embarrassment. As to prognosis, Jolly and Briquet consider the disease a rebellious one, while Henoch and Weiss look upon it as devoid of gravity. It is sufficiently proven that it is subject to relapses and to psychical weaknesses. The treatment should aim, first, to combat the isolated symptoms of the disease; second, to act upon the general condition, and especially to relieve the anaemia.

ASPIRATION IN CHRONIC HYDROCEPHALUS.⁴

Aside from the dangers of local infection which may be easily avoided by rigorously following antisепtic principles, puncture of the lateral ventricles may lead to other complications which deserve to be taken into consideration. There is, on the one hand, the entrance of air into the cranial cavity, and, on the other hand, arterial hyperaemia of the brain which may result from too rapid depletion of the ventricle. To avoid these accidents the author recommends the exercise of manual compression upon the cranium during the puncture, and care that the flow of liquid from the ventricle should take place slowly and regularly, and these two conditions may be realized with such an aspirator syringe as was described in 1867 by Mosler.

With reference to the technique of puncture with the aspirator, it may be said that this can be best done through the anterior fontanel, and that the needle should be inserted away from the median line so as to avoid wounding the superior longitudinal sinus. Two cases in which this plan was tried by the author are described minutely. In the first, five punctures were made within six weeks, seven hundred and sixty grammes of serum being withdrawn. The improvement in the case was only transient. In the second case the punctures were made at longer intervals than the first, but the

results were not more satisfactory. The conclusion from this experience might be that the effect of these punctures is almost *nil*, the withdrawal of the serum being almost immediately followed by its reproduction. Nevertheless this treatment need not be entirely rejected, for there are several recorded cases in which a cure has been obtained; and though the effect of the punctures might be only transient, they would facilitate to a certain extent and for a certain period of time the development of the nervous centres, and may be practised without the least danger to the life of the children. When they are made with all necessary precautions they are not followed by any local inflammatory reaction.

For those cases in which phenomena of compression of the brain appear, with convulsions, etc., this mode of intervention is quite warrantable.

PARACENTESIS IN INTERNAL HYDROCEPHALUS.⁵

The author exhibited a case of acquired chronic internal hydrocephalus, for the relief of which he undertook paracentesis after trephining. The patient was a boy nearly five years old. He was seized with convulsions when three months old, and these attacks, which became very frequent, continued for nine months and then ceased. Three months after their commencement his head became enlarged. Every form of treatment had been tried, but without the least success.

Condition at the time of operation as follows: He was obviously imbecile; he could not talk, but smiled idiotically; he was totally blind; but the other special senses were not apparently affected. He had never walked or stood alone, but could easily move his body and extremities. His bowel and bladder sphincters were not controlled. He was extremely irritable and restless. He was fairly developed physically, but always of an ashy pallor. There was a very frequent rotary movement of the head, with slight retraction and grinding of the teeth.

The anterior fontanelle closed when he was eighteen months old, and the sutures had ossified at the usual time. The measurements of the head gave twelve and one-half inches from the glabella to inion; thirteen and three-quarters inches over the biauricular line; twenty inches around the fronto-occipital line. On the 4th of December, 1888, the author operated upon the case. Under the most careful antisepctic precautions, with a trephine about one centimetre in diameter, a button of bone was removed from over the coronal suture, about one and one-half inches to the right of the median line. A very delicate trocar was passed through the dural membrane into the brain-substance, downward, backward, and inward, to the depth of one and one-half inches, the object being to pierce the central cavity of the right lateral ventricle. About an ounce of a clear limpid fluid, closely resembling cerebrospinal fluid, was evacuated, and, as the trocar was withdrawn, a small quantity of the same kind of fluid escaped from the subdural space. For several days the same fluid continued to ooze from the puncture in the dura, and it was estimated that from four to eight ounces was thus discharged.

The case progressed satisfactorily. In two or three days he could stand alone, and he was gradually able to walk alone across the room, which he did in about three weeks. There was a partial restoration

⁴ Pfeiffer: Rev. Mens. des Mal. de l'Enf., December, 1888 (Archives Pediatrics, January, 1889).

⁵ Ayres: American Lancet, Detroit, 1869, xiii, 128 (Archives Pediatrics, February, 1869).

to sight. He became more attentive and seemed to understand better. He was less irritable and he slept well. The rotary movements of the head ceased. However, there was no development of speech, nor were the sphincters under any better control. The author believes that more fluid will have to be evacuated, as the patient is not quite so active now as some time after the tapping.

The chief difficulty lies in our inability to determine which cavity to evacuate. For instance, if the fluid resides in both cavities, and the normal openings between them, through the foramen of Majendie, and those behind the roots of the glosso-pharyngeal nerves be closed by inflammatory exudation, or the presence of a tumor, then to tap only the subdural space would remove the external pressure, and allow such an expansion of the internal fluid as would perhaps lacerate the brain-tissue. Or the same effect might be produced by evacuating only the ventricular fluid. This may have been the cause of death in some of the reported cases.

TWO CASES OF LOSS OF HEARING CONSEQUENT UPON MUMPS.⁶

The first case was that of a boy, five and a half years old; who had been subject to nasal catarrh, and frequently a discharge from both ears. One week after the onset of mumps, the hearing was suddenly lost, and there was marked giddiness, roaring in the ears, and pain in the back of the head. At the time of the report, six months later, the power of hearing was totally abolished, and the power of speech was nearly lost. The second case was that of a man thirty-five years of age. At twelve years, during an attack of mumps, the hearing was entirely lost and never had been regained. The tympanic membrane and Eustachian tubes were normal.

The author believes that the lesions in both cases was in the labyrinth, but the nature of the pathological process is somewhat uncertain.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT, SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

REGULAR Meeting, Wednesday, May 21, 1890, DR. A. L. MASON in the chair.

DR. C. IRVING FISHER, Superintendent of the State Almshouse at Tewksbury, Mass., read a paper on

THE NECESSITY OF SOCIAL AND STATUTE RECOGNITION OF SYPHILIS.¹

DR. F. B. GREENOUGH: I shall have very few words to say on this very interesting subject of Dr. Fisher's paper. It seems to me it is one difficult to discuss beyond endorsing the very vivid picture he has painted of the prevalence of syphilis and the necessity for doing something, and the best we can under the circumstances. The subject, of course, is a very impor-

¹ See page 101 of the Journal.

² Barr: Glasgow Medical Journal, June, 1889 (Archives Pediatrics, March, 1890).

tant one owing to the prevalence of syphilis, its liability to spread by contagion and more than that to be handed down from parent to offspring. Unfortunately this social evil in the same way as other social evils, notably prostitution, is one in which the great difficulty which society finds in handling it, is that it is much easier to point out the evil and direct attention to it, than it is to formulate or lay down any practical means of overcoming it. Nevertheless the fact that we are not able to overcome all or even the greater part of these difficulties is no reason why we should not, on the contrary it is every reason why we should, devote ourselves to remedying them as far as we can; and it seems to me that the suggested legislative action that Dr. Fisher has advocated is certainly a most excellent opening wedge for this very important purpose.

He has given us a most vivid, realistic and true picture of the prevalence of the disease. Of course, the cases he sees do not represent the proportion in the community any more than the large proportion that I see in the dispensary would do the same. Nevertheless in the community generally, as all general practitioners and more especially those members of the profession who see more or less of special practice are aware, the disease is very prevalent and I think without question is becoming more so of late years, although that is thing that is difficult to prove.

One point to which Dr. Fisher referred interested me especially, namely, the necessity of hospital accommodations for cases of this sort. You commonly hear that there is no hospital accommodation for syphilitic patients. This is by no means true as the large number that Dr. Fisher has taken care of at the almshouse proves, and a large number come to the dispensary for treatment. Beyond these a certain number do get into the hospitals but theoretically they have no business there. The truth is, however, that according to the rules of the large hospitals, syphilitic patients are not admitted; and that for a poor person suffering from syphilis to get hospital treatment, it is necessary for him either to be sent to Tewksbury or go down to the Island, which latter he can't do unless he has a residence in Boston. The case often comes up at the dispensary, of men who are apparently respectable, who have no money and don't know what to do or where to go, and it is often impossible for me to suggest anything to them. Those who are lucky enough to get to Tewksbury or on the Island get well treated. It would be important to have large hospitals or other hospitals in the city and large centres where such patients could be properly taken care of.

I agree with Dr. Fisher entirely that it would not be well to have a hospital as a simple syphilitic hospital, or if it were so, not to call it such, as undoubtedly it would act very strongly against its usefulness and naturally we can't expect a patient if he has been unfortunate or even wicked in acquiring syphilis to have it given to the world if it can be avoided, and that would prevent exactly what we wish to accomplish.

Assuming the great advantages of hospital treatment, what are the reasons why it has not been heretofore included amongst the large and successful charities in which diseases of other kinds in our poor people have been treated? I think the first, perhaps, is the fact that syphilis has in connection with one other social evil, namely, prostitution, been treated here simply by being ignored, that is, the community, legislators, etc., wish to ignore it and that is a very poor way to treat

it. In addition to this reason, which is no reason at all, there is a feeling, undoubtedly in the community, that a person who has syphilis has it as a result of immorality, of sin, and consequently ought not to receive the benefits which the respectable poor should have. As to the Christianity or logic of that I have nothing to say, but even admitting that there is something in it there are many cases of syphilis in which that does not come in at all. Amongst the female patients who come to the service at the dispensary I am quite sure that over fifty per cent., are suffering from syphilis without any fault of theirs at all, simply as a result of being wives of men who have sinned and who have acquired the disease. Certainly these women instead of being punished on account of their misfortune, ought to receive extra care and attention. Apart from that there are not a small number of cases of syphilis in which the disease was acquired without any fault, by contact other than that of sexual intercourse. It is not at all infrequent, and my only wonder is that we do not more often see primary lesions on the lip, where we get a history of drinking out of the same tumbler or smoking the same pipe, which somebody drank out of or smoked, who had the contagious lesions in the mouth. The mucous patches about the mouth being so very contagious, and acts of kissing, drinking out of the same tumbler, smoking the same pipe being so common, my only wonder is that more people are not infected in that way. Probably all of you, gentlemen, certainly all of you who have seen much of special practice, are aware of the fact that many physicians have been inoculated, certainly without sin, in the practice of their profession.

It might also be urged against admitting syphilitic patients into the hospital, that, being a contagious disease, it would be dangerous for other patients. At the present day when so many diseases are claimed to be contagious, and when we have wards for almost all contagious diseases, that would be a reason hardly necessary to mention, but undoubtedly that has been considered by trustees, etc., in excluding it.

These being some of the reasons that probably have been urged against giving syphilitic patients hospital treatment what, on the other hand, can we urge for the necessity of so doing?

In the first place — *for the sake of the patient* — I would put that first, although perhaps, it ought to come last. We all know that syphilis, especially in its early stages, is extremely amenable to proper treatment. Patients who are put under proper treatment will, in a comparatively short space of time, be free from contagion and if proper treatment is continued sufficiently long I have no question that at the present day a great number of patients do throw it off entirely, whereas after having such treatment as a poor person would receive outside of a hospital, the chance of their becoming burdens to themselves and to society, as Dr. Fisher has so graphically described, is almost certain.

Another consideration is the removal of such persons from the possibility of communicating the disease to other people. Dr. Fisher has treated this so thoroughly that I will only endorse what he has said. I would mention in addition to the danger of contagion from sexual contact the danger of perfectly innocent contagion from the lips, etc.

The proper treatment during the early stages, such as poor patients would get in a hospital, would be of the greatest importance in diminishing the chance of

handing it down to posterity, which is, of course, one of the important ways in which the disease is spread.

One of the most urgent reasons for hospital treatment, I think, is the ability that medical students and practitioners would have of seeing cases of this sort, and I think if there is any disease in which clinical opportunities for seeing, watching and observing cases is important, it is in *syphilis*. There is no question about that. Syphilis, spread abroad as it is, liable to crop out in all classes of the community, luckily, in many cases, presents appearances on the mucous membranes and skin, which to the skilled eye are distinctive. The eruption is seen, and you realize at once that it is syphilis. Physicians often come to me with a case, and say: "I can get no history." You see something before you, and, no matter what the history, you know it is syphilis as surely as you know that a horse is a horse. That power can only be acquired by *seeing cases*, and if the student does *not* see cases, and the practitioner, in the early part of his practice, does not see cases, they can't recognize it; and one of the most important things in acting as a check to the spread of the disease is its early recognition.

One other thing I will refer to, and that is the expense, and the crowded condition of our hospitals, and the desire not to admit patients who will not be very much benefited thereby; but it seems to me that syphilis is just exactly one of those diseases which would be benefited by a stay in the hospital, more so than cases of cancer, phthisis, or, in fact, many diseases. If these patients could be for a few months or even weeks in the hospital, they would really derive more good for themselves, and secondarily for the community, than in a great many other diseases that are admitted without any question.

DR. J. C. WHITE: Dr. Greenough has so completely covered all the points which would occur to any subsequent speaker to allude to, that nothing remains to be said, I think, by myself of any great importance. I want, however, to insist upon what I consider to be a very important, because false, position which this disease holds in the community: that is the popular idea that there is a moral stigma necessarily connected with syphilis; that it is a subject which should not be spoken of publicly, and should not be treated in our hospitals. I think that the community needs to be alive to this fact that syphilis is no more a venereal affection than some other infectious diseases, no more so necessarily than leprosy, that it is not in itself a venereal disease at all, that it has had that secondary character engrafted upon it simply by our customs of living. No doubt syphilis is, in the great majority of cases, conveyed from one person to another by sexual contact, but, as Dr. Greenough has stated, it prevails in other classes of the community through inherited tendencies, through contact with implements used in trade, the social customs of eating and drinking, and not by any means infrequently through professional handling of patients. I have kept a list of physicians whom I have seen directly or indirectly as patients, with syphilis thus acquired in the past few years, and their number is astonishingly large. The mortality in our own profession from such forms of syphilis is not inconsiderable in the last ten years. If we go into communities of a lower civilization we find that syphilis is often conveyed in other than venereal ways; and I think that syphilis should be regarded as leprosy is regarded by public enact-

ment and by the community. If a leper comes to this port, the newspapers are full of it. He is looked at through a glass case; nobody wants to touch him or go on the same steamer with him. It is no more dangerous for a leper to come to Boston, to any hospital in this city, to this room, than a case of syphilis; and there is no more danger of infection; it is not in any way so dangerous to the community, as a whole, as is a case of syphilis, and the public should be made to understand this. If we go to a nation where the social habits are different, we see how syphilis may take on the course of infection and spread as some other non-venereal diseases do. If we go to a virgin soil, as leprosy went to the Sandwich Islands, there, owing to the peculiar customs, we find leprosy spreading as an endemic, and affecting a very large percentage of the people. So syphilis, in the history of these Islands, had a similar course. Of course the dissolute manners of those people made this all the more easily communicable from one person to another; but the same habits of living in other ways, the dipping of the finger into the dish of poi, passing around the same social glass in a large company, the use of the pipe passed from one mouth to another, the same intimate habits of living in close contact, and sleeping in close contact, acted precisely to spread syphilis for the first time among these Islanders, as they later acted to spread leprosy among them. It is essential that people should understand that syphilis and leprosy are exactly on the same plane; that one is no more necessarily immoral than the other, that one is just as dangerous as the other, and that syphilis is far more dangerous in this community, stalking, as it does, without any means of restraining it, than leprosy is at present in the United States, or is likely to be.

Now the only way to eradicate syphilis is to treat it, and to treat it in its beginning. Next, to isolate it as far as possible by such enactments, which may work a little way, as Dr. Fisher has here presented to-night. The public should understand that syphilis is dangerous to the individual. It is dangerous because it produces the gravest results to him often in spite of treatment, for it is a most insidious affection; that it is, at times, with great difficulty recognized, except by experts; that it is of the utmost importance that medical men should, as Dr. Greenough has stated, have every opportunity to learn to recognize it, far more than many other affections to which they have so much of their time devoted; that trustees of hospitals and managers of medical schools do not do their whole duty, if they continue to exercise the present narrow selection of cases for admission to hospitals. They say, virtually, a student shall be allowed in this hospital to recognize a case of fracture or rheumatism, which is confined to that individual in one case alone, but he shall *not* have the opportunity of learning to recognize one of the most dangerous diseases which exists in this community. They say to the medical students of New England: "You shall not have that opportunity," and they should be held responsible for it. It should be known to them, as to the community, that syphilis is dangerous, not only to the individual, but dangerous to his family immediately living with him, dangerous to his descendants, dangerous to the community at large.

DR. DURGIN: There is very little that I can add to what has already been said. The paper is a very pleasing one, and the remarks have covered the ground very completely. I think that it is a fact that the

community is very ignorant as to the extent and nature of syphilis. In the first place, those who recognize the disease and know anything about it say very little; the cases are never reported. They are treated quietly, not taken into the hospitals, because nobody wants to come in contact with them, and therefore the community is left ignorant both as to its extent and dangers. It has been wisely said by Dr. White, that this disease is more dangerous than leprosy. It seems to me so, and for one reason which has not been mentioned, that is, that a case of leprosy frightens every one, and any family in which a case of leprosy occurs is made fully aware of its dangers, and will take good care in handling it, but with syphilis I do not think that this is the case. In most families syphilis might occur, and the rest of the family remain perfectly ignorant of the fact. When they become aware of it, they don't understand the contagious nature of it, and the exposure is very much greater than in a case of leprosy. The fact that it is not taken into the hospitals is to be regretted. It seems to me that cases of syphilis could be treated in any of our hospitals without danger to the other inmates. With the present knowledge in the care of contagious diseases, it seems to me that this one might be treated as safely as any of the others, the danger not being through the atmosphere, but requiring contact. It seems to me that clothing, etc., which might become infected, could be so completely cared for as to avoid any spread of the disease. I don't see why syphilis should not be treated in any of our public hospitals. Not many years ago, a case of syphilis was reported to the Board of Health, and we were appealed to, to take charge of the case, which seemed to be a very bad one, and seemed to endanger other inmates of the house. We had determined to take charge of this case and send it to a hospital, but, on examining it, it did not prove to be one of syphilis. There have been two such cases within a few years. I felt disappointed at the time in not finding them to be cases of syphilis, hoping that we might take the initiative, and see how far the act would be approved by the public. I am very glad that this movement has started in the profession, and I am inclined to think that if the matter should be properly managed before a committee of the legislature, that favorable action might be secured.

DR. WIGGLESWORTH said: Specialization is the gauge of progress in civilization. The savage relied upon himself for everything and the results were of the rudest description. To-day it takes eleven men to make a pin, but how perfect the finished product!

(1) The civilization of to-day demands special hospitals or, where that is impossible, special wards in general hospitals, for each special division of medical practice. Some exist already, but professional jealousy and ignorance of the amount already accomplished in the direction of the treatment of diseases of the skin, have thus far prevented dermatological hospitals or even wards. Another drawback has been the gross ignorance which, founding its classification upon a physical localization rather than upon a pathological basis, lumped together the most dissimilar morbid processes under the general head of "venereal" diseases; and, of course, a ward could hardly be devoted to a branch of medicine and cases of general, external, constitutional, chronic syphilitic dermatitis and their sequelæ, and at the same time to a branch of special surgery with its cases of internal, non-constitutional, acutely

inflammatory maladies. We cannot base a medical classification upon the fact of the greater relative frequency of one of the many means of infection by different poisons. The poisons remain as distinct as the Kohinoor and a koprolite though both should be carried upon the same charger. I have known the kick of a horse to produce deafness in one case and a broken leg in another. We would hardly class these conditions together medically on account of their origin. The status of our profession to-day demands, I repeat, special hospitals or wards, at least, for both diseases of the skin and for genito-urinary surgery, the two to be kept most thoroughly distinct, if only as a means of overthrowing old superstitions and errors.

(2) Again; the civic dignity of our municipality demands that she shall not be left in the extreme rear of scientific and humanitarian progress. Boston is to-day perhaps, the only civilized city of any importance, absolutely without special hospitals or wards for skin diseases. As long ago as 1873 I had the curiosity to look up the condition of Italian cities in this respect. I found that Florence (population 120,000) and Rome (population 210,000) had special professorships and clinics for diseases of the skin and syphilis. Bologna (population 90,000), Naples (500,000), Palermo (population 170,000), Turin (population 185,000) and others, had each a professor and a clinic for these departments. According to sanitary regulations, enacted since the unification of Italy, the largest cities must possess special hospitals (syphilicoma), smaller ones special wards in their general hospitals. *By law no impunius syphilitic patient could be refused admittance.* I selected Italy because Germany and France were well-known to pay almost excessive attention to these branches. Now remember this was the condition of small Italian cities nearly twenty years ago. What is the condition to-day of the "Modern Athens of America" with its nearly half a million inhabitants and after the example set by Europe for, at least, a quarter of a century? Not one hospital, nor even one ward, for skin diseases and syphilis! and like the rude Carthaginian boor it even shuts its hospital doors against the houseless stranger and sends him away to disseminate his infection throughout the community. Five years ago I took occasion to investigate the condition of other American cities in this respect. New York had a skin and cancer hospital, and two wards for skin diseases at the Charity Hospital, to say nothing of the wards for syphilis on Blackwell's Island. Philadelphia had a ward for skin diseases at the University Hospital, one at the Philadelphia Polyclinic, and one at the City Hospital. Chicago took cases into both the Presbyterian and the Michael Reese Hospitals.

(3) And now in conclusion: — the object of hospitals, I take it, is the relief of suffering, the protection of the community, and the instruction of the profession. For all these reasons special wards and even hospitals are demanded. Why should small-pox, a comparatively slight disease, running a speedy course, preventable by vaccination or, if present, easily recognized and avoided, arrogate to itself an exclusive domicile; and the great pox be left absolutely houseless to run a course of, at least, three years, a course of steadily increasing intensity and yet, as a rule, unsuspected by those exposed to its infection? Why should leprosy have its special hospitals and these very hospitals even be isolated from inhabited places, and syphilis receive no attention although a precisely similar disease, due,

like leprosy, to a bacillus, propagated in the same way by inoculation, but with vastly greater ease, and entailing results exactly as bad in all respects as those of leprosy? The only difference is that syphilis is curable and, as a rule, easily cured, with *proper* treatment. All the more reason, therefore, for giving to the patient this proper treatment! Syphilis is more readily communicated than leprosy. All the more reason for protecting the community by the seclusion of the infected patient! Syphilis is furthermore one of the easiest diseases to cure, with *proper* treatment on the part of the physician. All the more reason for giving both physicians and students the opportunity to learn in what this *proper* treatment consists, as well as to make a right diagnosis, upon which so often depends the moral and mental, as well as the physical welfare, not merely of the patient, but of his whole family. No! the question is not, "Ought we have special wards and hospitals?" but, How is it possible that hospital boards have so long dared to delay to furnish them? Their injustice is explained, not excused, by ignorance. But what shall be said of their medical advisers? Has not the community a right to demand whether it is merely ignorance upon our part or whether there may not be a deeper motive; whether it is a lethargic indifference to the rights of humanity and to scientific progress or an active interest in means for our own personal advantage?

To avoid the possibility of such a reproach, it behooves us, as physicians, to strengthen by all means in our power every influence which can be brought to bear upon those in whose hands it lies to establish special hospitals or wards. According to the last report of the Trustees of the Boston City Hospital, "Suggestions and recommendations have been made from time to time, to the trustees, by the medical and surgical staff, that wards be set aside for the exclusive treatment of patients by the special departments. Such recommendations seem to be in accordance with the tendencies of the times and the progress of medical science. Diseases of the eye, of the skin, of the throat, of women, can undoubtedly be better treated in wards especially adapted for their purposes; and the trustees would gladly assist in such further classifications and special treatment, were there wards enough. . . . The death-rate from 'contagious' diseases will remain inexcessably high, in comparison with other large communities, especially abroad, until our community shall better appreciate what is done elsewhere, better comprehend the dangers of contact, and until the city is able and willing to pay for the best means and methods." The people have the power; we must educate them to use that power properly.

DR. MCCOLLUM: There has been so much said, and so well said, that I do not think I can add anything to the remarks that have been made. I was very much struck by one of Dr. Fisher's remarks with reference to the discharge of patients from the various institutions. It frequently happens that men or women who are suffering from syphilis will be discharged from the jail. There is no power to control it. They are advised to go to the dispensary or to Tewksbury. In some cases they do so; in other cases they do not. Of course, this question is an important one, and it is a question which the profession should take hold of in earnest. Much can be done by proper legislation; but I think even more can be done by the efforts of individual physicians in educating their patients up to the

fact that syphilis is so contagious. A comparatively small number of patients have any idea of the contagiousness of syphilis. They should also be instructed as to the importance of continuing treatment a very long time. The majority of patients stop treatment too early, and, as a result, are not properly treated; and they do not resume treatment until something new manifests itself. Hence the importance of a department in our hospitals for skin diseases and for syphilis is very great.

DR. P. C. KNAPP: I want to add just a word with reference to the comparison which has been made here a number of times between leprosy and syphilis. There is one point which, it seems to me, has been forgotten, that is, that when leprosy attacks a patient, it kills him eventually; when syphilis attacks a patient, the patient is cured in a few years, and then, five or ten or twenty-five years later, he or she comes down with tabes, with an attack of hemiplegia, or with general paralysis or some other of the late nervous manifestations, which, if not due directly to syphilis, are vastly more frequent in syphilitic subjects than in persons who have never had syphilis. That, it seems to me, is a thing that should be borne in mind, and should emphasize what the dermatologists have had to say tonight in regard to the necessity for some effort to check the spread of syphilis.

DR. J. C. WHITE made the following motion :

Voted, That the Section of Clinical Medicine, of the Suffolk District Medical Society, earnestly asks the attention of the managers of the Massachusetts General and City Hospitals to the subject of hospital accommodation for syphilitic patients, and expresses its conviction of the pressing importance of such provision in the institutions under their charge.

The motion was passed unanimously, and the Secretary was directed to transmit the vote of the Society to the Trustees of the Massachusetts General and Boston City Hospitals.

DR. C. IRVING FISHER presented the following suggestion for legislative consideration :

An Act to prevent the spread of syphilis by criminals and paupers.

Be it enacted, etc., as follows: That any inmate of any criminal or public charitable institution, who has syphilis, shall at once be placed under medical observation and treatment, and shall not be discharged therefrom until three months after all infectious symptoms have disappeared.

This Act shall not be construed to apply to any institution supported by private charity.

The vote of the meeting was taken, and it was in entire approval of the above suggestion, and a committee of three was appointed to take action thereon. The Chairman named Drs. C. Irving Fisher, J. C. White and F. B. Greenough as that committee.

Adjourned at 10.30 o'clock.

— A preliminary meeting of the incorporators of the proposed Rush Hospital for consumptives in Philadelphia, has been held. The list includes many of the well-known names in Philadelphia medical circles. A location in West Philadelphia is under consideration.

— A moderate epidemic of typhoid fever has occurred at Princeton, N. J., which, if we are to believe press reports, has been traced, like the recent one at Waterbury, Conn., to a milk supply.

AMERICAN OTOLOGICAL SOCIETY.

TWENTY-THIRD Annual Meeting, held at Hotel Kaaterskill, N. Y., July 15, 1890.

MORNING SESSION.

President DR. OREN D. POMEROY, of New York, in the chair.

The first paper was entitled

MASTOID' SCLEROSIS, AS ILLUSTRATED BY A TYPICAL AND FATAL CASE,

by DR. HUNTINGTON RICHARDS, of New York.

The patient, a man aged twenty-six, came under observation March 8, 1890. Eleven months before a large polypus had been removed from the left auditory canal. The symptoms noted March 8th were earache and headache, with some mastoid tenderness. There was apparently a cicatricial drum membrane greatly depressed. There was an opening in it about three millimetres in diameter. A small polypus projected through the opening. A dose of calomel was ordered, and Bacon's artificial leech, followed by frequent douching, was advised. It was at this time deemed probable that an operation on the mastoid would be required. Four days later the drum membrane had become prominent. A Politzer inflation greatly increased the prominence. There was no redness or stenosis of the wall of the auditory canal. The drum membrane was adherent to structure posterior by a line along its middle, dividing the prominence into two portions. Three days later a portion of one of these prominences was removed by the snare. Three days later (18th) the auditory canal was much stenosed. There was swelling and tenderness in front of the ear, and some tenderness over the mastoid tip. The artificial leech was again applied with benefit. May 1st a polypus that had formed was removed. May 3d there was again mastoid tenderness. Discharge became profuse. May 5th the mastoid was operated on, but no trace of pus or of any true antrum was found. May 10th the temperature rose to 104.2° F., and the patient complained of violent headache. May 12th the attempt was made to extend the opening forward towards the tympanum by the use of Volkmann's spoon, without result. The opening was then enlarged by chisel and rongeur forceps until it became funnel-shaped, measuring twenty-seven millimetres in depth and twenty-seven by twenty millimetres in width. No antrum was discovered and no recognizable drum-cavity was opened and no accumulation of pus tapped. The day following the operation muttering delirium set in with diplopia, some slight convulsive movements of the orbital and facial muscles, complete ptosis of the left eyelid, and persistent tonic contraction of the muscles of the right side of the neck. The patient continued to fail, and died at 4.30 p. m. unquestionably of diffuse meningitis, and not improbably there was an inter-cranial abscess. No post-mortem could be obtained. It is possible, though far from certain, that an early and thorough operation for removal of the osseous and pus-confusing membrane would have accomplished what the two mastoid operations failed to do, namely, adequate outlet for pus, etc., and consequent saving of life.

In his paper the author urged the adoption of the expression "vault of the tympanum" or "fornix tympani" to designate that portion of the drum-cavity above the upper border of the tympanic ring. This

term is quite as appropriate as is the half facetious though conveniently brief "attic" of several recent writers. As to a supposed and most erroneously supposed Latin equivalent of the latter, namely, "atticus," it is hardly necessary to say that it is wholly inadmissible on linguistic grounds, there being no noun "atticus" in the Latin language, save the adjectival substantive used to designate an Athenian citizen. "Atticus" is not, never was and cannot now be, made the Latin term for a garret, attic or upper story of a house.

DR. S. THEOBALD, of Baltimore, reported

A CASE IN WHICH A SEPTUM CLOSELY RESEMBLING THE TYMPANUM MEMBRANE FORMED IN THE MIDDLE THIRD OF THE EXTERNAL AUDITORY CANAL, AND WAS REMOVED WITH IMPROVEMENT TO HEARING.

The septum, which was present only in the right ear, was about six millimetres nearer the outer extremity of the auditory canal than was the tympanal membrane of the opposite ear. It evidently had no connection with the ossicle, but moved out when the middle ear was inflated by the Valsalva method, and moved in again during the act of swallowing. There was a history of double otorrhea in childhood. After excision of the septum, it was found that the tympanal membrane proper was entirely destroyed, but the stapes and malleus were recognized *in situ*. The mucous membrane of the tympanal cavity was sclerosed and atrophied. A marked improvement of hearing followed immediately upon the removal of the septum. Further improvement was subsequently gained by inserting an artificial (cotton) drumhead. The hearing, which before the operation was equal to distinguishing words in a loud voice at twenty feet, was improved to words in a low voice and whisper at twenty feet. The septum showed a decided tendency to reformation, which had to be controlled by the application of chromic acid and a second resort to the knife.

The PRESIDENT: These membranes forming in the external canal have for their end a reparative action. I saw such a membrane form in a case of my own, where there had been otorrhea, with loss of most of the membrane for fifteen years. The discharge ceased under treatment, and there was the formation of a new membrane similar to that described by Dr. Theobald, only in my case it was much thicker. I consider that in most cases the formation of this membrane is a most satisfactory reparative result. I should be glad to see Dr. Theobald's case followed for some time, to see whether or not there was any return of disagreeable otorrhea.

DR. J. A. ANDREWS, of New York: A few years ago I reported to the Society a case similar to that of Dr. Theobald. The membrane closed about three-fourths of the canal. It was removed, and there was no return of the discharge.

DR. HUNTINGTON RICHARDS, of New York: I recently saw a case in which there were two closures, one at nearly the normal distance of the tympanic membrane, and the other close to the meatus. I removed the outside membrane, but hesitated to cut through the other, as in one or two cases where I have done so the evidences of improvement have not been great. I am now treating a similar case, where the stenosis is close to the position of the normal tympanic ring. I have cut away the lower portion of the ring with acetic acid to permit free exit of discharge.

DR. THEOBALD, of Baltimore: There was no return of the discharge in the few weeks that the patient remained under observation. The patient would undoubtedly have been willing to be more or less troubled with otorrhea to gain the marked improvement in hearing.

ON THE RENEWED EMPLOYMENT OF THE NASAL DOUCHE AND KINDRED PROCEDURES,

by DR. A. H. BUCK, of New York.

Several years ago attention was called to the danger of exciting ear trouble by the use of the nasal douche and similar procedures. For some time it seemed that this warning had been heeded. During the past winter and spring the author had seen a large number of these cases, and thought it advisable to again call attention to the dangers that may follow the use of the nasal douche. In a few instances the results of the inflammation have been severe, but in the majority they have been simply an increase of the subacute nasal and aural catarrh.

As a safer and equally efficient method of treatment the use of a spray was suggested. The following preparations were mentioned:

R	Eucalyptol.	:	:	:	:	35 gr. j.
Oil. Gantotheria	:	:	:	:	gr. 10.	
Menthol	:	:	:	:	3	gr. M.

If the patient objects to this, it may be substituted by

R	Listerine	:	:	:	:	1 part.
Water	:	:	:	:	:	3 parts.

In the presence of an accumulation of viscid mucus or of crusts, a stream of flowing water will doubtless prove more effective than a stimulating spray. If the latter is used freely and each time during the inhalation of a deep breath, crusts and mucus will speedily cease to play a part in the therapeutic problem. In no instance had he known the use of the mixtures mentioned to cause any unpleasant aural symptoms. The use of sprays must, however, be looked upon only as a valuable method of supplementary treatment, and not as a therapeutic procedure of the first order.

THE REMOVAL OF A BULLET FROM THE EAR, WITH THE ASSISTANCE OF THE GALVANO-CAUTERY,

by DR. LUCIEN HOWE, Buffalo.

The difficulty occasionally met with in removing a round, hard body from the auditory canal is well known. The first efforts in these cases should be made with a syringe. The writer wished in this paper to call attention to a method which may occasionally prove useful, and which, so far as he was aware, had not been before suggested.

April 30th, a boy seven years old was brought to him with a small bullet lodged in the lower part of the auditory canal. An attempt to remove it by syringing was first made, without avail. An attempt with forceps showed the foreign body firmly imbedded, and on account of its smooth surface, it was impossible to grasp it. It then occurred to the operator that it might be possible to melt into the lead the wire of a galvano-cautery, by means of which, when cool, it could be removed, or, if not, to at least roughen the surface to such an extent as to allow forceps to grasp the bullet firmly. The child was put under the influence of chloroform, and the wire was melted into the lead, and the ball was drawn to the narrow part of the

canal, where it became detached. The surface of the bullet was then roughened above and below, and with toothed forceps removed.

The speaker took the opportunity offered by the report of this case to express his firm conviction that we should use every effort to discourage the practice common among physicians of attacking every such foreign substance with a pair of forceps. By our own example and discussion, we should teach our brother practitioners how much simpler and safer an instrument we have in the syringe.

DR. A. H. BUCK, New York, made a supplementary report on the

ANATOMY OF THE ELEPHANT'S EAR.

DR. C. H. BURNETT, of Philadelphia, read a paper on

PERMANENTLY GOOD RESULTS OF EXCISION OF THE MALLEUS AND MEMBRANA TYMPANI, IN A CASE OF CHRONIC TINNITUS AND AURAL VERTIGO, AND IN A CASE OF CHRONIC SUPPURATION OF THE ATTIC DUE TO NECROSIS OF THE HEAD OF THE MALLEUS.

In the first case, all known remedies for the relief of catarrhal deafness, tinnitus aurium and vertigo failed to give any relief. The malleus being found adherent to the promontory, this was believed to be the cause of the retraction of the chain of auditory ossicles, impaction of the stapes, pressure on the labyrinth fluid, and the noises in the head, and intense aural vertigo. The patient was therefore etherized (May 22, 1888), and the membrana tympani and the malleus excised. The relief to the tinnitus and vertigo was instantaneous and complete, and the cure has been a permanent one for two years, thus proving the mechanical origin of so-called Menière's disease in many instances.

In the second case, a chronic purulent discharge from the attic cavity of the middle ear, due to necrosis of the head of the malleus of several years' duration, was promptly and entirely relieved by excision of the membrana tympani and the diseased malleus. The operation was performed in July, 1889. The purulent discharge ceased at once. A new membrana formed in the course of two months, and the hearing rose from nothing to twelve feet, for isolated words. There has been no renewal of the discharge up to the present time, one year from the date of operation, and the general health of the patient has greatly improved.

DR. B. ALEXANDER RANDALL, Philadelphia, contributed further notes on

THE SHARPNELL PERFORATION.

He remarked that in citing in his paper of the previous year, a series of 13 new cases among 500 patients in six months' practice and a total of 120 among 10,000 in a group of clinical workers, he had thought the frequency of the lesion sufficiently proven; yet, as the point had been questioned when his paper appeared, he had been noting such cases again since January 1st, As the result, he had 23 cases to report, observed among 500 new patients of the six months, three of which occurred in patients previously seen, but without recognition of such a perforation. His incomplete notes for the latter half of 1889 showed only four records of the lesion, but he was confident that many more had been seen and treated. Yet, even accepting this record as complete, it furnished a series of 27

cases among about 1,000; or 42 among the 1,500 patients seen during fifteen months = 2.8%.

Excision of the drum membrane and malleus had been done in two of the cases before reported, without any such brilliant result as to lead him to prefer this radical measure to the intra-tympanic syringing usually employed. He expected to adhere to the latter using as before the Annel syringe and the hollow lachrymal probe as the most satisfactory apparatus, and the peroxide of hydrogen and weak solutions of the mineral acids as the fluids.

The cases were reported in detail, with drawings of many of them, and the farther history of the former cases was appended.

DR. J. A. LIPPINCOTT, of Pittsburgh, reported a case of

MASTOIDITES INTERNA PURULENTA FOLLOWING ERYSPelas.

The ear became involved one week after the occurrence of a severe attack of erysipelas. There was no preliminary involvement of the throat or nose. The patient recovered after opening of the mastoid and syringing.

DR. NEIL J. HEPBURN, of New York, reported a case of

FRACURE OF THE MALLEUS HANDLE FROM THE INTRODUCTION OF A HAIR-PIN.

SOME CASES OF MASTOID CELL DISEASE WITH A FISTULOUS OPENING WHICH RECOVERED WITHOUT THE USE OF THE DRILL OR CHISEL,

by DR. OREN D. POMEROY, New York.

Four cases were reported in which recovery occurred by the use of Wilde's incision and careful antisepsis:

The first case was that of a woman, forty-nine years of age, who had a fistulous opening into the mastoid three-fourths of an inch deep. After waiting a reasonable time for the fistula to close from the bottom, the external wound was allowed to close. There was no untoward results.

The second case was that of a man, thirty-nine years of age, who had a fistula into the mastoid eleven-sixteenths of an inch deep, which healed before the external wound was closed.

The third case was that of a child, four months of age, who had an opening into the mastoid, extending forwards and inwards for one and a half inches. This had nearly closed, when the external wound was allowed to close.

The fourth case was that of a man, twenty-two years of age, who had an opening into the apex of the mastoid, which closed concurrently with the Wilde's incision.

None of these cases had enough systemic disturbance to suggest that anything was going wrong.

ANEURISM FIRST RECOGNIZED IN THE FUNDUS OF THE EAR, LATER APPEARING IN THE NECK,

by DR. CHARLES A. TODD, St. Louis.

May, 1880. Mr. C., forty-five years of age, came under observation complaining of pain in the left ear and symptoms suggesting furuncles. In 1858, he had severe otitis media in both ears for one week, followed by discharge which ceased without treatment. Some deafness has since existed. For the past seven or eight years he had noticed a pulsating sound, at first in

both ears, now in the left. On examination of the left ear, there was seen a circumscribed swelling on the floor of the meatus just in front of the membrana and entirely concealing it. It was soft and fluctuating. Filling the ear with water a distinct intra-aural pulsation could be seen. The swelling was lanced under the supposition that it was a furuncle. There was a free gush of blood and some three ounces of blood were lost before the flow could be stopped by tamponing. No pus whatever was seen. The tampon could not be permanently removed for several days. Compression by tampon was advised to be continued at home. August, 1880, it was learned that compression had afforded little benefit. Ligation of common carotid was suggested if symptoms were considered sufficiently severe.

March, 1883, patient was again seen. Electrolysis had been tried with asserted diminution in size. March, 1890, the aural tumor was still present, but in addition there was a large aneurismal swelling of the neck below the ear. The patient was then referred to a general surgeon and has not since been heard from.

DR. BLAKE'S PAPER DISK: CASE HISTORIES,
by DR. ROBERT BARCLAY, St. Louis.

The object of the paper was particularly to call attention to the application of paper dressings to the membrana tympani, first suggested by Dr. Clarence J. Blake of Boston, for the treatment of perforations of that structure. To demonstrate not only the advantages claimed for this method, but others modestly disclaimed, and its wide usefulness in other conditions than those defined for its applications when originally suggested, the following cases were reported:

CASE I. A lady twenty-eight years of age, with right-sided acute otitis media of twenty-four hours' duration. The right membrana tympani vibrata was found bulging. A deep incision afforded some relief. At the end of five days a perforation of the posterior superior quadrant of the membrana tympani. This was closed by the application of a paper disk. Seven weeks later the disk with attached epithelial plate was removed from the superior posterior canal wall. The perforation had healed and hearing was normal.

CASE II. A lady twenty-one years of age, sought relief from tinnitus and deafness of right ear. The left ear had been condemned as irreparably disabled by former inflammation. She had had otorrhea in childhood. Three years before, there had been a return of this trouble in the left ear. This was checked after one week's duration. This ear, however, remained deaf. With the right ear she could hear a moderate voice, with the left, a loud voice at two feet. Right middle-ear was the seat of chronic catarrhal inflammation. The membrana tympani of the left ear was perforated in the posterior inferior quadrant. Treatment somewhat relieved the symptoms in the right ear. Stimulating applications to the perforation induced its closure to one-sixteenth in diameter, when a paper disk was applied. Two days afterward the disk was still in place. Hearing in left ear was one-forty-eighth; while moderately loud voice could be heard at twenty-five feet distance. The disk was subsequently removed and the perforation closed. The hearing of left ear has steadily improved.

CASE III. A man thirty-five years of age, was seen with deafness, tinnitus, cough and otorrhea in left ear of two months' duration. Two circular perforations of

membrana tympani were found. The otorrhea was checked and a paper disk applied to each perforation with immediate improvement of hearing for the voice. It is thought that the relief may have been permanent as the patient did not return.

CASE IV. A woman thirty-seven years of age. Six weeks before coming under observation sustained a compound fracture of the skull involving both sides of the base, the bony tympana, membrana tympanum and right external auditory canal. There had been aural hemorrhage followed by otorrhea. There was a transverse rent of right membrana. Within thirty-five days the only open wound was a small perforation. A paper disk was applied, a little flexible collodion was painted over it. Within two weeks hearing became normal.

CASE V. A lady twenty-one years of age, with the left membrane almost entirely sloughed away. A paper disk was applied. Within twenty days the watch could be easily heard off the left auricle. The hearing has steadily improved.

CASE VI. A man twenty-two years of age, had prolonged otorrhea on right side in childhood. For past three weeks had deafness in both ears. Left ear was the seat of chronic catarrhal otitis media. Right ear shows two perforations. These closed in seven weeks. There was marked improvement of the hearing.

CASE VII. A youth nineteen years of age, had been subject to bilateral otorrhea since the age of six months. Perforation of right membrana tympani was found. After cessation of otorrhea, paper disks were applied. The perforation promptly closed with improvement of hearing.

CASE VIII. A man nineteen years of age, had otorrhea in childhood. During past eight years has had recurring attacks of otorrhea on left side. The left membrana tympani was greatly thickened and perforated. The discharge ceased in nine days and under stimulating treatment the size of the opening diminished. In the fourth week the first paper disk was applied. Four days later the hearing for the watch was $\frac{3}{4}$. The perforation has subsequently closed.

CASE IX. A physician, forty-eight years of age, had sustained a rupture of both tympanic membranes in diving thirty-four years before and for over thirty years had intermittent otorrhea. A perforation in the right membrana tympani was found. This promptly healed under the application of a paper disk. The hearing greatly improved.

Conclusions: From the case histories given may it not be considered demonstrated that Dr. Blake's paper dressings have these therapeutic advantages already claimed; applied to a perforation of the membrana tympani, it performs in a great measure, the functions of the lost membrane, (1) improving the hearing from the time of application, (2) maintaining a normal degree of moisture and temperature in the air of the tympanic cavity, (3) protecting the enclosed tissues from direct influence to atmospheric influences, and (4) excluding organic and inorganic foreign bodies approaching from the external auditory canal, (5) it acts as a local irritant to the edge of the perforation only, thereby inducing reproduction of the lost membrane, (6) as a splint protecting it when forming and preventing its displacement in either direction.

May we not accredit this method with these additional advantages hitherto unclaimed: (1) Improve-

ment in hearing may subsequently result from cicatricial closure of the perforation, not at once appreciable on application of the paper disk; (2) the paper dressing may prove serviceable even where the perforation is quite large; (3) it may be used to advantage where indeed the outer surface of the membrana tympani has not returned to its normal condition; (4) it may prove a serviceable artificial membrana tympani where that structure is almost entirely lost; (5) at the same time may stimulate reproduction thereof; (6) it may serve as a splint when applied to manometric tissue; (7) it may induce conservative structural modification thereof and (8) may by acting here as an artificial membrana tympani at the same time improve the hearing.

A failure to secure satisfactory results is not to be attributed to the method, experience proving that discriminating judgment and skill in its application are largely essential to its usefulness.

The following officers were elected: President, Dr. Gorham Bacon, New York; Vice-President, Dr. Huntington Richards, New York; Secretary and Treasurer, Dr. J. J. B. Vermyne, New Bedford, Mass.; Committee on Membership, Drs. Arthur Mathewson, Brooklyn; Samuel Theobald, Baltimore, and S. D. Risley, Philadelphia; Committee on Publication, Drs. J. J. B. Vermyne, New Bedford; C. J. Blake, Boston, and J. Orne Green, Boston.

The following were elected to membership: Dr. Frederick L. Jack, of Boston; Dr. J. B. Shapleigh, of St. Louis; Dr. Benjamin J. Baldwin, of Montgomery, Ala.; Dr. J. M. Ray, Louisville, Ky., and Dr. F. U. Ring, of New York.

The Society then adjourned.

Recent Literature.

The Gulstonian Lectures on Secondary Degenerations of the Spinal Cord. Delivered at the Royal College of Physicians, March, 1889, by HOWARD H. TOOTH, M.D., F.R.C.P., etc. Octavo, pp. 71, with 14 illustrations. London: J. & A. Churchill. 1889.

To the student of the fine anatomy of the spinal cord, this careful study is a necessity. Dr. Tooth's personal researches are based upon various cases of transverse lesion of the cord in man, and upon experiments made upon monkeys by Mr. Victor Horsley. In addition, however, the author has incorporated into these lectures many of the results reported by other investigators. The first lecture is devoted to the study of the pathological changes of degeneration. The so-called traumatic degeneration is essentially inflammatory, and embraces the whole region about the lesion, irrespective of special tracts. Secondary degeneration is visible in six days. Secondary degeneration in the cord is due to destruction of trophic centres, interruption in the continuity of fibres, or section of the posterior roots; it is not the same as Wallerian degeneration of the nerves; the fibre is rendered useless, and its place is gradually taken by thickened neuroglia. The process is usually complete in six months. In the peripheral nerves the fibre dies, but regeneration also occurs. Tooth doubts whether anything like a regeneration of cord fibres ever occurs. The next two lectures are devoted to the study of ascending and descending fibres in the various tracts of the cord, — a

subject of the utmost importance to our knowledge of anatomy and physiology. The student will find in this admirable presentation an admirable guide to the subject. Space is lacking to point out the various data collected, but we must call attention to the section on the visceral fibres of the cord, medullated fibres of the finest calibre, efferent and afferent, which have long been observed, although their significance has been unknown. The author calls attention once again to these fibres, and suggests the importance of a careful study of them in all obscure cases of nervous disturbances of the viscera. Although appealing primarily to the specialist, this monograph is one the perusal of which would repay every physician. P. C. K.

Recherches Cliniques et Therapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie. Par BOURNEVILLE, SOLLIER, PILLIET, RAOULT, BRICON et COURBARIN. Octavo, T. viii, pp. ix, 263, with 27 illustrations. T. ix, pp. ix, 92, with 25 illustrations. Publications du Progrès Médical, Paris. 1888, 1889.

These two volumes sum up the work of the service for epileptics, idiots and feeble-minded, at Bicêtre, for the years 1887 and 1888. The first part of each volume is devoted to tables of statistics, an account of the new contagious ward, isolated ward and dormitory, and an illustration of some of the methods employed in the management and instruction of idiots. The second part is clinical, and contains various articles, based on observations at Bicêtre, many of which have already appeared elsewhere. The most important of these is a long article, in the eighth volume, by Bourneville and Bricon, on procursive epilepsy, a form of epilepsy attended with rapid propulsion in a straight line or in a circle, seldom attended with a fall or followed by coma, but complicated with marked congestion of the face. The relations of these attacks to the procursive aura, to post-epileptic procursion and to automatism are pointed out. Procuration itself is thought to be due, as far as the few autopsies give any light, to some cerebellar lesion. The prognosis, as in all forms of epilepsy, is grave. The other most important papers in this volume are one on two cases of double atrophy with imbecility by Bourneville and Pillier, and one on dentition in idiots by Sollier. In the ninth volume, Bourneville reports another interesting case of myxedematous idiocy, and Bourneville and Courbarin study the rôle of consanguinity of parents in the aetiology of epilepsy, idiocy, imbecility and hysteria. Their conclusions are, that healthy consanguinity has no effect, but that where the parents are defective, consanguinity intensifies the probability of defect in the offspring. P. C. K.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M.D., LL.D. Fifth American, from the Seventh English Edition, with Notes and Additions, by ROBERT P. HARRIS, M.D. Philadelphia: Lea Brothers & Co. 1889.

This work is too well-known to require extended notice as successive editions appear. The most important changes noted are in the sections on the Porro operation, on the conservative Cesarean operation, and on the treatment of extra-uterine pregnancy. We see with pleasure that the new obstetric nomenclature has been adopted in this edition; but we regret that the distinguished author has thought best to retain the autogenetic theory of puerperal sepsis.

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THE CONTROL OF SYPHILIS.

THE subject of State control of syphilis is a very vital one, which forces itself upon the notice of the profession with great emphasis. There can be no question that the evil has become one that deserves some attention at the hands of those who provide for the preservation of public health. The disease holds a singular position, in that, in common with other venereal diseases, it is shut out from the charity of our public hospitals. The exact reason for depriving venereal patients of hospital treatment may not necessarily have been anything more than that they were not considered the class upon whom public charity should be expended. But the conditions have changed. They have become a menace to the public health, and for self-protection some action should be taken.

Syphilis is, however, only nominally a venereal disease. It is the large proportion of cases of non-venereal syphilis, *sypilis insontium*, which gives the disease its importance.

In discussing the subject of State control in 1887, Fournier gave as the proportion of women in his private practice who had received the disease without wrongdoing on their part as nineteen per cent. This result was reached after throwing out all doubtful cases. Dr. Greenough, in the discussion which we publish to-day, puts the percentage of women innocently affected in his dispensary practice as more than fifty per cent. It must be remembered that these innocent women are not all even the wives of unfaithful husbands,—some are the wives of men who have been themselves accidentally inoculated from a common pipe or drinking glass.

Public opinion has somewhat changed in regard to the charity to be bestowed upon evil-doers. It is a more commonly accepted idea that the regeneration of the sinner is most easily introduced by the care of his physical ills. The missionary is now also a physician, or is accompanied in his field of labor by a physician, and missionaries have been found in the class-room with medical students, studying syphilis as one prelim-

inary or assistance to their missionary work; and surely, in our own country, the day has gone by when syphilitics must be considered as beyond the reach of compassion and assistance.

The strict regulation and control of syphilis, as is attempted in some foreign countries, is out of the question in the United States, nor is there very good reason to desire such a method. Its success is not unquestioned, even in the countries where the regulations are most strict. Some other method must be found here, and the first and most obvious is the establishment of hospital accommodations. There is room for two opinions as to the propriety of letting down the bars which rule in out of general hospitals. It may not be best to do so; but some provision can be made, and is demanded for public safety. Even private charity might find a most worthy object in establishing suitable hospital provision for syphilitics.

There is one method of bringing public attention to the evil, which ought to be put in practice. Syphilis might well be included in the same quarantine regulations that exclude patients with leprosy from entering the country. The number thus excluded would probably be but a tithe of the number that now annually enter our ports to become a burden to the community; but the effect of the exclusion of a single individual would have a wide result for good, in deterring others from emigrating.

THE INSANITY OF CARDIAC DISEASE.

ACCORDING to Bull (*Médecine Moderne*, No. 29, p. 577) mental alienation, due to disease of the heart, is relatively rare.

Nasse, in 1818, first wrote of cardiac insanity as a special psychosis. Since then, numerous treatises have appeared on the subject; notably those of St. Germain-Limbo, Astros, Duriez, Sancerotte, Norel, Armanguet, etc.

It has long been remarked that sufferers from heart disease occasionally present peculiar mental symptoms. They are emotional, irritable, peevish, get angry at the least trifle, while, at the same time, possessing great mental and bodily activity. These psychical peculiarities do not amount to mental alienation, but they constitute a tendency of mind on which insanity may graft itself.

What are the two fundamental conditions necessary to constitute cardiac insanity?

First and foremost, a lesion of the heart, then a particular disposition of the cerebrum. The cardiopathy is the *sine qua non*; what it is important to remember is that the insanity generally breaks out during an exacerbation of the cardiac symptoms. One of Bull's patients felt his suicidal impulses only when the palpitations, the painful constriction of the thorax, the dyspnoea came on. "These accidents (the insane manifestations) made their appearance chiefly when the patient was standing, and when he was leaning his head forwards, thus producing anæmia of the bulb

and congestion of the frontal lobes; they rapidly disappeared when he lay down on his back. The morbid impulse vanished with the respiratory distress."

As for the particular heart-lesion, it is generally agreed that mitral affections are the most influential in bringing on this psychosis; next in order come the ventricular hypertrophies, and lastly, aortic insufficiency, a lesion which is peculiarly prone to anaemiate the bulb, and give rise to the anguish and dyspnoea so characteristic of Corrigan's disease.

We are hardly yet in possession of the knowledge which might enable us to refer special kinds of insanity to particular kinds of lesions. Patients may be affected with all forms of cardiopathy without mental alienation, while the great majority of the mentally unsound have no lesion of the heart whatever. But melancholia, doubtless, oftener coincides with heart disease than with any other psychosis. There exists a cardiac hypomania accompanied with a restlessness and an agitation which bears a marked resemblance to "anxious melancholia," that is, a delirium with predominance of sad ideas, and with an exaggerated tendency to noisy lamentations, and an irresistible tendency to continued movement.

Burman considers hypochondriac melancholia as the type of cardiac insanity; to this he joins the delirium of suspicion, and a particular mental state in which the subjects are at once impulsive and depressed.

It has been remarked that all the victims of cardiac insanity are extremely prone to suicide, and that the morbid impulse is especially apt to manifest itself on the occasion of an aggravation of the circulatory troubles. The delirium is peculiarly a delirium of the night time, as Corvisart has remarked. It has, moreover, been noted that the supervention of albuminuria is one of the most important factors in the production of the delirium. A cardiac patient in the full possession of his reason will show signs of mental derangement, will have delirium, hallucinations, morbid impulses as soon as the least cloudiness of albumen appears in his urine. This circumstance suggests the possibility of the delirium being uremic in these cases.

The one feature which soonest attracts attention in the evolution of cardiac insanity is the intermittent march of this psychosis; it manifests itself paroxysmally, its accessions being habitually followed by remissions supervening under the influence of rest and treatment.

In making a diagnosis of cardiac insanity, it is necessary to lay great stress on the fact of a cardiopathy anterior to the disorders of intelligence; then the remittent character of the delirium, and its coincidence with manifest troubles in the functions of the heart will be important elements of diagnosis.

A third character, to which great importance is attached, is the precordial distress which precedes and accompanies the explosion of the delirium.

In the treatment of this kind of insanity, great reliance must be placed on the heart tonics, especially on

digitalis, frequently administered in small doses; it has been found that large doses rather aggravate than arrest the delirium. Bull speaks highly of the utility of hypodermic injections of sparteine and morphine, which have a very rapid action in arousing and sustaining a fatigued and flagging heart. The sedative action of the alkaline bromides on the nervous system constitutes them a precious auxiliary. Repose and isolation are indispensable; it will often be necessary to send the patient to a sanitarium, or even to an asylum; sometimes a sea voyage will give just the rest and freedom from care and business that is needed.

MEDICAL NOTES.

—The Boston *Transcript* having said that "we have a ridiculous surplus of doctors in the United States," the *Traveller* asks if the *Transcript* can mention any profession that has not a surplus of practitioners? We object to the expression "ridiculous." It might be ridiculous if it were not extremely pathetic.

—The New York State Care of Insane Act requires that all doctors who have been granted certificates of examiners in lunacy by a judge of a court of record as required by law, shall file a copy of such certificate in office of the State Commission in Lunacy.

Commitments of persons signed by physicians who have not filed such a certificate have been received in the office of the State Commission in Lunacy, and have been declared illegal. Commissioner Brown says the law will be strictly enforced in this respect.

—The *Path*, a journal of theosophy, in its current number contains the following calm description of the objects and methods of vivisection: "Through a creature crucified alive to a plank, cut into with knives, torn with burns, burnt with acids or hot irons, pierced through and through with nails, scalded inside or outside with boiling water, wetted with spirits and set on fire, whose eyes and organs and limbs are dissected out bit by bit, whose nerves and sinews are wrung to their utmost tension with hooks, whose whole circulation is deranged and whose frame is writhing throughout with agony — Nature permits no trustworthy revelation to be made."

—The New York *Star* mentions three physicians of that city who have forsaken the path of medicine for the thornier one of financial speculation and, strange to say, all of them with marked success so far as the attainment of wealth. One is Dr. J. H. Parker, just elected vice-president of the Park National Bank, who made the first steps toward his fortune, estimated as in the millions, from cotton speculation, having formerly been a medical practitioner in Charleston, S. C. The second is Jesse Seligman, of Seligman Brothers, who was about to hang out his sign as a doctor in San Francisco during the gold excitement of 1848-49, but drifted into the banking business instead. The third is Dr. Norvin Green, president of the Western Union Telegraph Company, who came from Kentucky, and at one time made a specialty of lung diseases.

— Dr. Audie Sarzeau, in the *Pharm. Zeitung* (*Pharm. Journal*, p. 792, 1890) directs attention to the considerable solvent action of camphor upon iodoform. He found that it requires ten grammes of alcohol for the solution of .125 gramme of iodoform, yet the quantity of the latter dissolved is one gramme if the alcohol be first saturated with camphor.

— The New York *World*, which is nothing if not enterprising, has matched its recent performance of Nellie Bly with the doctors by a similar trial on the druggists. A reporter took two prescriptions around to thirty-six drug stores, had them compounded, paid for them, took receipts, then went home and wrote a three-column article, which was duly published in the *World*. The two prescriptions, as priced by "a prominent member of the drug jobbing trade," were as below :

PRESCRIPTION NO. I.

Sulfonal	is valued at \$1.35 an ounce.
Sulfonal, grs. xv, cost	4 cents 73 mills
Bismuth, sub. carb., ½ dram, cost	1 cent 5 mills
Cretac prep., grs. x, cost	0 cent 2½ mills
Total.	5 cents 15 mills
Equal to 6½ cents.	

PRESCRIPTION NO. II.

Tinct. opii camph. 1 ounce, cost	2 cents 5 mills
Mist. glycyrrh comp., ½ ounce, cost	1 cent 73 mills
Syr. acacia, ½ ounce, cost	1 cent 2½ mills
Total.	4 cents 15 mills
Equal to 6½ cents.	

Thus twelve cents was the actual cost of the materials in the prescriptions, and the reporter becomes excited when, upon comparing receipts from the stores where he had the medicines compounded, he finds he has paid sums ranging from thirty-five cents to eighty cents, and immediately resorts to mathematics to show that the druggists have made from 300 to 400 per cent. profit. It is quite fair for the druggists to protest that the reporter has figured at *nil* the manipulative skill of the druggist, and what is worth more, the responsibility for the handling with accuracy of powerful remedies.

— Mr. C. S. Loch, an active officer of the London Charity Organization Society has printed in *Murray's Magazine* a very complete and interesting analysis of Medical Relief in London. In London there are eleven hospitals with medical schools at which over 44,000 in-patients and over 550,000 out-patients are treated annually, and the medical students find in them the best means of perfecting their preparation. London has eight general hospitals without schools, caring for 5,600 in- and over 107,000 out-patients. It has 56 special hospitals with over 26,000 in- and 398,000 out-patients. London has 39 dispensaries with over 260,000 patients, and of late, instead of giving medical advice and treatment and medicine free, successful efforts have been made to discriminate in favor of those really entitled to such wholesale charity. Then London has 44 dispensaries maintained by the tax-payers, caring for over 114,000 patients. The hospitals built and supported by taxes supply over 11,900 beds. Out of a total of 23,539 beds in its hospitals, 17,830 were occupied, the differ-

ence being due to want of funds, not of patients. The nominal deficit of the London hospitals is about half a million dollars a year — that sum is needed to enable them to use all their accommodations.

— Many strange ideas of hospitals and hospital appointments are being aired just now before the Lords Committee, as we learn from the *London Lancet*, and many vague and contradictory statements are made as to matters of fact which are apt to prejudice the public, or to convey an impression that witnesses are speaking at random and without that precision which is always to be expected in professional men. One view of the honorary surgery to a great hospital came out rather strongly in the evidence of one witness — namely, that it involved great sacrifice on the part of the surgeon. The gentleman was of the opinion that the honorary surgery to a well-known hospital cost him very dear — lost him, in fact, £2,000 a year. This is one way of putting it; but, as our contemporary points out, a very one-sided way. "A surgeon devotes time to hospital work, but the work and the appointment give him reputation. He is not asked to hold the appointment longer than suits his own convenience. He can fix his private work for any hours and days which suit his hospital engagements. A dozen young rivals will only be too happy to relieve him of his hospital appointment, and to them it would not mean a loss of £2,000 a year. We do not undervalue the great services to hospitals rendered by surgeons of secured fame. But they must not ask the public to pity them too much. It is not a form of martyrdom that can be too much magnified."

♦ ♦ ♦
Miscellan.

M. PASTEUR AND HYDROPHOBIA.

An article by Thomas M. Dolan, M.D., in the *Contemporary Review* for July, contains a strong arraignment of the success of the Pasteurian treatment against hydrophobia. We make room for a few extracts:

"It is now thirteen years since . . . I investigated carefully a number of cases of alleged cures by a clergyman residing near Burnley, who had a great reputation in Lancashire for the cure of hydrophobia. The result of my inquiry showed that the Rev. Dr. Verity, the clergyman in question, had had a large number (two thousand) of dog-bitten patients. A few of them had died from hydrophobia after his treatment; but the majority escaped, the reason being that they had been bitten by non-rabid dogs, or had been bitten through clothing, etc. I inquired into numerous other alleged cases of cure of hydrophobia, but always with the same result; and I was thus led to formulate this proposition, — 'that if any one obtained a reputation for the prevention of hydrophobia, and if all the dog-bitten sought or took this remedy, the result would be statistically favorable.'

"I found, on carefully comparing the statistics given by M. Pasteur with those of the years which preceded the introduction of his system, that the supposed rabid dog-bitten in France had increased in extraordinary proportions; while, at the same time, the average

mortality from rabies in France had shown but little fluctuation.

"In explanation of the deaths, a general affirmation was made that the cases that died came 'too late.' But, in looking through the list of patients, I found that the cases which were 'cured' were, in many cases, of just as long duration, and that with regard to them no assertion was made that they came 'too late.' Take, for instance, the case of Lord Doneraile. If, in his case, eleven days was too late for treatment, then all cases that came after that period had elapsed must be expunged from the list of cures. Or, if Lord Doneraile's death was due to the application of the weak or first method, then the cases of the others treated by the same formula fall to the ground.

Dr. Dolan cites the classification which Pasteur has adopted with regard to the proofs that the patients he has treated were bitten by dogs that were really suffering from rabies. The following is the form adopted: Class A. Cases in which the dog was proved to be rabid by the experimental test; Class B. Cases in which the dog was recognized as rabid by the veterinary surgeon; Class C. Cases in which the dog was only suspected of being rabid.

"This classification presupposes that all the patients have been exposed to danger. It makes no allowance for non-rabid dogs, with the strange result, that, according to these statistics, a veritable epidemic of rabies, affecting thousands of dogs, must have existed in France during the years which have elapsed since M. Pasteur introduced his system.

"Dr. Dujardin-Beaumetz, Director of the Sanitary Service of Paris, has addressed to the prefect of police a report on hydrophobia in Paris, furnishing the following data of comparison:

"For the four years antecedent to Pasteur the deaths were 38, namely, in 1882, 9; in 1883, 4; in 1884, 3; in 1885, 22.

"For the four years of treatment the deaths were 37, namely, in 1886, 3; in 1887, 9; in 1888, 19; in 1889, 6.

"On November 2, 1887, M. Pasteur wrote to the Academy of Medicine as follows: 'We know that sixty persons have died in the Paris hospitals during the last five years, a mean of twelve per year.'" After careful investigation of the hospital returns for those years, Dr. Dolan contradicts this statement, and submits a full list of the names of all the patients who died in the Paris hospitals during that time, showing the following results: in 1881, 11 died; in 1882, 3; in 1883, 4; in 1884, 3; in 1885, 5. This gives a total of 26, or an average of 5.2 per annum, in place of the annual average of 12, as estimated by M. Pasteur, of French patients treated by him, who have "died since the introduction of the Pasteurian system." The following is a recapitulation: in 1886, 19 deaths; in 1887, 27 deaths; in 1888, 23 deaths; in 1889, 21 deaths; giving a total of 80, or a yearly average of 20. These cases only represent the deaths after inoculation by M. Pasteur. To obtain the annual mortality of rabies in France, we must add to the foregoing the deaths of those persons who have not been treated at the institute. According to statistics published by M. Pasteur himself in 1886, the deaths among the non-inoculated for that year amounted to 17. If these be added to the 19 who died after treatment, we have an annual mortality of 36, as against an annual mortality, according to Tardieu's returns,

prior to the introduction of inoculation, of 25 to 30. With these statistics before us, we are forced to the conclusion that the words of Sir James Paget in his recent address at the Mansion House were prompted more by generous impulse, and by feelings of respect and friendship for Pasteur, than by any strict regard to statistical data. As we have seen, Sir James Paget fixes the general mortality of those bitten at 15 per cent. M. Pasteur, in his article in the *New Review* (December, 1889), accepts this estimate, but thinks it is too low for bites on the face and other exposed parts. In such cases he thinks that the figures should be from 60 to 90 per cent. If we add up the number who have been bitten on exposed parts, and accept these percentages, then M. Pasteur's saving of life has been much greater, and his cures for France alone amount to some hundreds per annum. When we remember the ascertained mortality in France, and the rarity of hydrophobia there in past years, such percentages as the foregoing reduce the system to an absurdity."

TENOTOMY TO INCREASE THE MOBILITY AND POWER OF THE MUSICIAN'S RING-FINGER.

CONSIDERABLE attention having been lately attracted to the above subject we subjoin extracts from a paper by Dr. F. W. Langdon, in the Cincinnati *Lancet Clinic*, for July 5, 1890:

"The limited range of independent extension possessed by the fourth digit of the hand is well known, and is usually a most formidable stumbling-block to the pianist and other performers on keyed and stringed instruments, in the production of certain notes, and musical effects, as trills for example.

"The causes of this impairment of mobility, which is associated with a corresponding lack of power in the digit, are two in number, namely: (1) mechanical, due to structural peculiarities of the parts; and (2) physiological, due to insufficiency of muscular development; the latter being dependent on the former.

"The mechanical obstacles to free extension, as any one may satisfy himself by dissection, or even by examination of the average living hand, are two oblique tendinous bands, situated about three-quarters of an inch above the knuckle line, connected proximally with the extensor tendon of the ring-finger and distally with the common extensor tendons on either side, namely: those to the middle and little fingers.

"That these subsidiary tendons act as 'guy ropes,' and limit the extensor range of the ring-finger especially, may be determined by any one for himself, by placing the hand on a flat surface and extending, first, the ring-finger alone; then extension of its neighbors on either side will demonstrate that all three can be brought higher than either one alone. The little finger is seen to be less affected than either of the others, owing to its possession of a proper extensor, which is free, while the middle finger is less limited than the ring, by reason of having the 'guy' tendon on one side only.

"These diagonal tendinous bands are constantly present, though varying somewhat in development and position in different persons.

"Not only is extension of the ring-finger diminished, but separation of the three inner digits is materially lessened by the presence of these apparently insignifi-

cant slips, so that the lateral "spread of the digits is impaired to such a degree as to become an important matter to the musician. Again, in addition to the mere limited range of motion, both vertically and laterally, due to the mechanical effects of these slips, there is also to be considered the physiological factor, namely, lessened functional activity and consequently faulty development of the muscular fibres acting on the extensor tendon of the ring-finger, namely, fibres of the common extensor, fourth dorsal interosseous and third lumbricalis. This fault of development is a more important matter than would appear at first glance, since it is mainly by the interossei and lumbricals that the first phalanges are flexed and the second and third extended, whence the name 'fiddicinates.'

The performance of the operation in one case is thus described. "The field of operation was prepared by thorough cleansing. The skin, with a large branch of the dorsal venous arch, was now slipped aside with the thumb, so as to leave clear of vessels the interspace between the third and fourth metacarpals in the neighborhood of the proposed incision. Moderate flexion of the patient's hand enabled the operator's finger to define the position and direction of the outer (radial) connecting slip, which varies slightly in different subjects; its middle averaging perhaps three-quarters of an inch above the knuckle line. With an ordinary sharp-pointed tenotomy knife a longitudinal incision, one-eighth inch in length, midway between

the third and fourth metacarpals, and just to the distal side of the slip to be divided, is carried through the skin and superficial fascia. The exact location of the slip having now been determined by means of a probe — the deep fascia is incised at the lower edge of the slip and the point of the knife carried directly upward, that is, toward the wrist, beneath the slip, which parts with the characteristic creaking sound and feel. If not sufficiently tense to divide easily, it may be made more resistant by directing the patient to flex the fingers a little more strongly. The dressing consisted of a pledget of absorbent cotton held in place by adhesive strapping.

"A marked increase in range of independent extension was at once evident, and within a few days the patient remarked a greater precision of touch — there being no tendency to the lateral twisting which had before annoyed him — and which was at this time observable in the other hand. Union of the wound was complete when the dressing was removed on the third day, and the result of the operation was so satisfactory to the patient that he at once submitted the other hand to be operated on. The motion attained in both cases was so satisfactory that it was deemed unnecessary to divide the slip going to the little finger tendon. In some extreme cases, however, this also would probably require division, in which event it would be well to bear in mind its lesser length, and not mistake for it the common extensor tendon, going to the fifth digit."

REPORTED MORTALITY FOR THE WEEK ENDING JULY 19, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	941	538	36.85	10.56	2.31	30.14	.55
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,277	437	205	26.22	10.58	2.07	20.47	1.61
Brooklyn	852,467	523	318	36.48	9.12	4.18	27.74	.19
St. Louis	550,000	163	85	23.79	5.49	1.83	18.91	2.44
Baltimore	500,343	248	96	26.40	9.20	1.60	16.80	3.60
Boston	418,110	219	101	26.32	12.22	3.29	21.62	.47
Cincinnati	325,000	123	48	28.35	17.00	6.48	4.86	4.86
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	122	61	28.70	11.48	1.64	14.76	8.20
Nashville	88,413	38	19	34.19	5.26	—	26.30	2.63
Charleston	80,145	34	16	20.58	5.88	—	11.76	5.88
Portland	42,000	12	2	—	—	—	—	—
Worcester	81,622	31	21	45.22	6.46	—	45.22	—
Lowell	73,370	56	36	39.16	10.68	—	35.60	3.56
Cambridge	67,026	33	22	42.42	3.03	3.03	36.36	—
Fall River	64,042	48	32	49.92	10.40	—	49.92	—
Lynn	55,200	14	—	—	7.14	—	—	—
Springfield	41,520	11	4	27.27	18.18	—	27.27	—
Lawrence	41,058	31	18	38.76	—	—	32.30	—
New Bedford	38,218	15	11	33.33	6.66	—	33.33	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salisbury	28,249	9	5	11.11	11.11	—	—	—
Chelsea	27,781	16	7	18.75	12.50	—	18.75	—
Haverhill	27,124	17	11	52.92	11.76	—	52.92	—
Taunton	25,544	8	4	25.00	12.50	—	25.00	—
Gloucester	24,904	8	4	—	25.00	—	—	—
Newton	22,011	7	1	—	—	—	—	—
Malden	20,615	6	3	16.66	16.66	—	16.66	—
Waltham	17,998	4	1	—	25.00	—	—	—
Fitchburg	17,304	3	2	33.33	—	—	33.33	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	2	0	—	50.00	—	—	—
Quincy	14,114	2	1	—	—	—	—	—
Newburyport	13,915	4	1	—	25.00	—	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,185; under five years of age 1,673: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 963; consumption 384; acute lung diseases 175; diarrhoeal diseases 785; diphtheria and croup 78; typhoid fever 48; whooping-cough 43; measles 16; scarlet fever 12; malarial fever 12; cerebro-spinal meningitis 8; erysipelas 3.

From whooping-cough, New York 15, Brooklyn 11, Philadelphia 7, Baltimore 3, St. Louis, Boston, Washington, Charleston, Cambridge and Salem 1 each. From measles, New York 11, Brooklyn 2, Baltimore, Washington and Lawrence 1 each. From scarlet fever, New York 7, Philadelphia and Brooklyn 2 each, Baltimore 1. From malarial fever, Baltimore 6, Brooklyn 5, Nashville 1. From cerebro-spinal meningitis, Washington 3.

The meteorological record for the week ending July 19, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending Saturday, July 19, 1890.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*		Rainfall. Duration, Hrs. & Min. Amount in Inches.
		Daily Mean.		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
		Daily Mean.	Daily Mean.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
Sunday... 13	30.10	67.0	75.0	59.0	66	68	67.0	67.0	S.	S. W.	12	6	F.	F.		
Monday... 14	30.08	67.0	78.0	56.0	89	68	79.0	79.0	N. W.	S. W.	8	12	O.	C.		
Tuesday... 15	29.99	77.0	91.0	64.0	80	72	75.0	75.0	S. W.	S. W.	21	8	O.	C.		
Wednesday... 16	30.02	77.0	91.0	62.0	95	75	75.0	75.0	S. W.	S. W.	10	7	O.	C.		
Thursday... 17	29.87	76.0	84.0	68.0	59	45	47.0	47.0	W.	W.	3	14	F.	F.		
Friday... 18	29.90	72.0	75.0	68.0	52	38	45.0	45.0	N. W.	N.	24	1	C.	C.		
Saturday... 19	29.93	65.0	73.0	58.0	61	65	63.0	63.0	S. W.	N.	12	10	O.	F.	0.07	
Mean for Week.																

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 26, 1890.

STONE, L. H., assistant surgeon, ordered to the U. S. Receiving-Ship "New Hampshire."

UXOR, J. F., assistant surgeon, detached from the U. S. Receiving-Ship "New Hampshire," and ordered to U. S. Receiving-Ship "Wabash."

NORTON, OLIVER D., passed assistant surgeon, granted leave of absence for month of August.

BABIN, H. J., surgeon, granted one month's leave of absence from July 23d.

OBITUARY. JACOB ROBERTS, M.D.

Dr. Jacob Roberts, who died at his residence, in Philadelphia, July 20th, of cerebral hemorrhage, was born in that city on March 21, 1838. He graduated at the University of Pennsylvania in 1862, and soon afterwards entered the regular army as a medical cadet, and was afterwards commissioned by Governor Andrew, of Massachusetts, as an assistant surgeon in the Twenty-third Massachusetts Infantry. He was with his regiment on three battlefields, but his duties for the most part were in the hospitals. After a service extending over two years he resigned, and began the practice of his profession in Philadelphia, in which he met with great success. For many years he was associated with Professor Goodell, of the University of Pennsylvania, in conducting a lying-in charity.

BOOKS AND PAMPHLETS RECEIVED.

Session of 1890-91. Annual Announcement of the New York Polyclinic and Hospital, a Clinical School for Graduates in Medicine and Surgery.

A Treatise on Rheumatism and Rheumatoid Arthritis. By Archibald E. Garrod, M.A., M.D., Oxon., M.R.C.P., etc. With charts and illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

Brooklyn 2, New York 1. From erysipelas, New York, Brooklyn and Boston 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending July 12th, the death-rate was 17.7. Deaths reported 3,308: infants under one year 636, diarrhoea 177, measles 163, whooping-cough 112, scarlet fever 70, diphtheria 36, fever 26.

The death-rates ranged from 10.4 in Norwich to 25.3 in Newcastle-on-Tyne: Birmingham 19.2, Bradford 13.9, Hull 11.7, Leeds 18.1, Leicester 19.9, Liverpool 22.8, London 17.4, Manchester 23.1, Nottingham 12.8, Sheffield 16.9, Sunderland 19.9.

In Edinburgh 16.7, Glasgow 23.0, Dublin 21.3.

Fact and Theory Papers. Protoplasm and Life. Two Biological Essays. By Charles F. Cox, M.A. New York: N. D. C. Hodges. 1890.

The Nature of the Giant-Cells of Tubercle and the Elements Associated Therewith, as Seen in Comparative Pathology. By Walter K. Sibley, M.B., B.C., B.A., Cantab. Reprint.

Railway Hygiene, and the Necessity of Sanitary Inspection and Supervision of Railway Coaches, Buildings and Grounds. An Address to the Association of Railway Surgeons at Kansas City, Mo. By G. P. Conn, M.D., Concord, N. H. 1890.

Familiar Forms of Nervous Disease. By M. Allen Starr, M.D., Ph.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York. With illustrations, diagrams and charts. New York: Wm. Wood & Co. 1890.

Diseases of the Rectum and Anus, Their Pathology, Diagnosis and Treatment. By Chas. B. Kelsey, A.B., M.D., New York, Professor of Diseases of the Rectum, at the New York Post-Graduate Medical School, etc. Third edition, rewritten and enlarged, with two chromolithographs and 168 illustrations. New York: Wm. Wood & Co. 1890.

Extra Uterine Pregnancy. The History of, by Dr. G. W. Millerberger; Laparotomy for, with Report of a Successful Case, by Dr. T. A. Ashby; Review and Discussion, by Dr. H. A. Kelly; General Discussion. Papers read before the Obstetrical and Gynaecological Society, of Baltimore City, January 14 and February 11, 1890. Published by order of the Society.

Über Feuerbestäubung. Vortrag gehalten am Abende des 12. Februar, 1890, im Verbindung mit Experimenten und Vorlesungen von kolorettalen Bildern in Natur und künstlichen Verbrennungen zu Mühlhausen im Elsass. Neben Anhang und mit fünf Abbildungen im Texte, von Prof. Dr. Friedrich Goppele-Röder. Druck und Verlag von Wenz & Peters, Mühlhausen i. Els.

An Investigation into the Etiology of Phthisis. By Henneage Gibbs, M.D., Professor of Pathology in the University of Michigan; and E. L. Shurly, M.D., Professor of Laryngology and Clinical Medicine in the Detroit College of Medicine. Part II. On the Clinical History of Phthisis Pulmonalis. By E. L. Shurly, M.D. Part IV. On the Etiology and Local Treatment of Phthisis Pulmonalis. By E. L. Shurly, M.D. Reprints. 1890.

Original Articles.**SOME POINTS IN THE TREATMENT OF GONORRHEA.¹**

BY GARDNER W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

THE ANTERIOR URETHRA.

The fact that gonorrhœa, even under favorable conditions, has a strong tendency to become chronic, and the acknowledged difficulties encountered in treating the disease in its later stages, give it an importance to the physician perhaps out of proportion to the seeming insignificance of the symptoms. A slight urethral moisture, without subjective symptoms, will sometimes keep the patient in a state of worry and depression, and the physician at his wits' end, trying one remedy after another, for months; yet, if Noegele's teachings are to be followed, and they are apparently gaining more and more advocates among the gynecologists, the importance of absolute extinction of the disease in every case can scarcely be exaggerated.

Various forms of treatment are, from time to time, recommended, promising quick and permanent cure for gleet; but most of them are disappointing. The reports of such brilliant results are probably based on too small a number of cases. Chronic urethritis is an uncertain as well as an obstinate affection. It occasionally happens that a slight chronic discharge will stop spontaneously, almost abruptly, and sometimes a sound passed two or three times, or a simple injection for a few days will check a discharge, and relieve symptoms that have been going on a long time; but such cases are the exception, not the rule, and should not be cited as showing the remarkable properties of a particular course of treatment. The slight exacerbations to which some men are subject who have previously had gonorrhœa, not due to fresh infection, but following excesses, often yield promptly to simple astringent injections; a very few injections of a corrosive-sUBLIMATE solution will almost surely check such outbreaks. Corrosive sublimate (1 to 10,000 or 20,000) also makes a very good, and I think the best, injection for chronic discharge.

Irrigation of the urethra, with a quart or more of warm solution, through a blunt nozzle held at the meatus, or, still better, through a catheter passed to the bulb, often gives satisfactory results in chronic urethritis; potassium permanganate (1 to 2,000), corrosive sublimate (1 to 20,000), or creolin (1 to 500) may be used in this way. The latter is quite irritating, and should not be used where there is any active inflammation. These irrigations may be repeated two or three times a week, an injection being used in the intervals, or the patient may irrigate himself every day. A sound passed occasionally may be found a valuable aid.

I am convinced, however, that by far the most rational method of treating chronic gonorrhœa is by means of local applications to the diseased mucous membrane through the endoscope. The advantage of ocular demonstration of the diseased surface, and of being able to observe directly the effect of treatment, is obvious. In October, 1887, I reported before the Suffolk District Society some cases of urethral endoscopy treated at the Boston Dispensary, and showed

some of the endoscopes designed by Dr. Hermann G. Klotz, of New York, and described by him in a very interesting article in the *New York Medical Journal*, November 27, 1886. (See Fig. 1.)

These endoscopes are straight, open tubes, of different sizes and lengths, made of coin silver, which allows of their being very thin and light, and is not affected by the solutions used in treatment. Any strong, steady light, reflected into the tube from a head-mirror, will sufficiently illuminate the urethra to admit of a close study of its pathological appearances. Having been passed down to the bulb, and the conductor removed, the endoscope is slowly withdrawn, giving opportunity for careful inspection of the mucous membrane and for treatment. The applications are made by means of a cotton tampon on the end of a wire, as large an endoscope as will pass the meatus should be used.

A more or less deep or livid congestion, with edematous swelling of the mucous membrane, dilated capillaries here and there, and a granular appearance in places, is the commonest condition. It may be nearly evenly diffused over the whole surface of the anterior urethra, but is generally more circumscribed, notably in the bulbous portion, but especially about the penoscrotal angle, where it is most marked, as a rule, according to my experience. The latter situation, or just anterior to it, is a common seat of stricture of large calibre, recognized by a rigid state of the mucous membrane, which is often associated with inflammation of the mucous glands of the urethra. When this condition is present, the inflammation is apt to linger here after it has subsided in the bulbous portion and elsewhere, and, when the general congestion has been partially reduced, the mouths of the glands may be seen as small points, each surrounded by a dark red or reddish-brown areola. In these cases of stricture recovery will almost surely be retarded, and it makes but little difference of how large calibre the stricture is. In one case a 38 (French) sound passed easily; yet a stricture was distinctly defined by a *bougie à boule*, and it proved a very troublesome complication.

Other abnormalities described by authors on endoscopy include variations in color and smoothness of the mucous membrane, thickening of the epithelium in stripes, erosions and ulcerations, polypi, papillomatous growths, etc. The latter, constituting the rare affection described by Oberlinger, of Dresden, as papillomatous urethritis, I have had an opportunity of seeing, through the kindness of Dr. F. M. Briggs, whose very interesting case is reported in the *Boston Medical and Surgical Journal*, October 24, 1889.

In endoscopic examination the light reflexes, minutely described by Grünfeld, sometimes a hindrance and sometimes an aid to the clearness of the view, should be carefully noted and taken into account, also

¹ Read at the meeting of the Surgical Section of the Suffolk District Medical Society, April 2, 1890.



Fig. 1. Klotz's Endoscope.

the effect on the color of the mucous membrane — paleness — produced by pressure of the end of the tube and of the cotton tampon.

In treatment, I have used nitrate of silver almost exclusively, and generally begin with a one per cent. solution and increase the strength gradually to ten per cent., if well borne. The cases which tolerate the stronger solutions seem to do better, as a rule. The applications are, of course, limited to the parts actually diseased, whereby the healthy parts are spared unnecessary irritation, and the stronger solutions, the quantity being small, may be safely used. A slight discharge for twenty-four or thirty-six hours, with moderate pain on micturition, is the only reaction to be expected. It would evidently be impossible to use an injection of anything like the same strength without setting up acute inflammation. The applications should be made every four to seven days, and, if thought advisable to use injections in the intervals, ordinary astringents may be prescribed, or a solution of corrosive sublimate (1 to 10,000 or 20,000); and sounds may be passed occasionally with advantage. A narrow meatus should be cut, strictures cut or dilated, and other complications treated according to indications.

The cases of stricture complicated with glandular disease are slow in their progress toward recovery, but generally do well in the end. The silver solution seems to work gradually into the mouths of the glands, and may help to promote absorption of the stricture tissue; this, I think, I have observed in one case. Klotz uses sulphate of copper where these glands are involved. These strictures are so resilient that very little can be accomplished by dilatation, and many patients object to being cut. Oberländer² treats them by forcible dilatation by means of his dilator, in which spreading blades may be opened to any extent. The dilatation is carried a little farther at each sitting, until the stricture is ruptured and the diseased glands split open, when applications of nitrate of silver (two to five per cent.) are sufficient to complete the cure.

Other diseased conditions are to be treated according to indications, and I will not go into details here. Ulcerations generally require strong applications or cauterization, polypi should be removed with the snare, and papillomata by means of the curette.

Fortunately, however, in most cases we have to do with a simple inflammation of the urethra. As a rule, they do well, and it is very satisfactory to see the mucous membrane gradually fading and assuming a normal appearance, and to hear the patient's expressions of gratification as he feels his disagreeable sensations passing away. The duration of treatment, of course, varies in different cases. In an ordinary uncomplicated case, a dozen sittings, covering a period of about two months, would probably suffice. Here is an average case:

CASE I. E. C., age twenty-one, began treatment with the endoscope August 13, 1888, after some preliminary treatment to diminish the discharge. First gonorrhœa a year and a half ago; duration six months. Second attack six months ago; discharge continues to date. Mucous membrane highly congested in the bulbous portion, gradually shading off anteriorly;

quite edematous in the middle portion. Solution of nitrate of silver, one per cent., applied. The history is simply that of gradual improvement in the appearance of the mucous membrane, the intense congestion fading out and leaving a nearly normal condition with simultaneous amelioration of subjective symptoms. A two per cent. nitrate of silver solution was applied August 17th; three per cent. August 20th, 24th and 27th; four per cent. August 30th; five per cent. September 5th; seven per cent. September 8th; and ten per cent. September 11th. The patient here suddenly broke off the treatment against my advice, and immediately plunged into excesses which he kept up almost uninterruptedly, without the least apparent disadvantage, until the following summer, when he had a slight exacerbation, which was easily controlled by a few injections of corrosive sublimate.

THE POSTERIOR URETHRA.

In passing the endoscope beyond the bulb into the deep urethra, great care should be observed to avoid injury to the delicate and inflamed mucous membrane held down against the end of the instrument, as it is, by powerful muscular contraction. Grünfeld recommends a hard rubber tube for this purpose, the edges not being as sharp as those of the metallic instrument; he passes it without a conductor, and is thereby enabled to keep the visceral end, under control of the eye, constantly in the axis of the urethra. A smaller endoscope should be used than in the anterior urethra, not larger than 24 F., according to Klotz.

The color of the mucous membrane is normally of a deeper red than in the spongy portion. With some practice and carefully guarding against expulsion of the tube by sudden and convulsive contractions of the external sphincter, the caput gallinaginis may be recognized as a bright-red rounded prominence in the lower part of the field with a crescent of dark-red mucous membrane above it. Bleeding is very easily excited in the deep urethra, which obscures the view and renders treatment less effective.

Pathological distinctions are less easily recognized through the endoscope than in the anterior portion. Grünfeld describes hyperamia, catarrhal swelling and hypertrophy of the caput gallinaginis, but Klotz thinks that differences in size of this organ may be due to individual peculiarity. Applications are made as in the anterior portion, but the solutions used should generally be milder.

Three years ago, Dr. E. L. Keyes, of New York, read before the American Association of Genito-Urinary Surgeons a valuable paper on "Deep Injections of Nitrate of Silver."³ He uses for the purpose a modification of Ultzmann's deep urethral syringe, the essential feature of which is a long, curved nozzle of pure silver with a pinhole opening in the end. (See Fig. 2.) He begins with a very weak solution, one grain to the ounce, and gradually increases the strength, rarely going above two per cent. Keyes thinks that most of the disagreeable results of this treatment, which have limited its popularity in the past, are due to passing the instrument too deeply into the prostatic urethra, and considers it important that the point of the syringe should just enter the membranous portion. Two or three minimis of the solution deposited here will diffuse themselves backward

² See "A Résumé of the Views of Dr. Oberländer, etc." by J. A. Fordyce, M.D., in Journal of Cutaneous and Genito-Urinary Diseases, January, 1889. There is also a detailed description of the treatment in Volkman's "Sammlung Klinischer Vorträge," No. 276, May 31, 1886, p. 14.

³ New York Medical Record, May 28, 1887.

over the mucous membrane and penetrate into the prostatic urethra. He prefers to inject before micturition, because otherwise the nitrate of silver is decomposed by the urine with which the urethral walls are bathed, but he allows the patient to urinate soon after, and then has him hold his water as long as possible and avoid straining. When there is much pus, however, he has the patient urinate first, and then injects a larger quantity (five minims), which will not be decomposed.

Keyes reports cases, successfully treated by this method, of acute and sub-acute gonorrhoeal cystitis; acute and chronic deep urethral inflammation; double relapsing epididymitis due to the latter; irritability of the bladder; the same due to enlarged prostate; oxaluria, prostatic neurosis and sexual weakness. He also recommends it in prostatorrhœa, spermatorrhœa, nocturnal emissions, and nervous impotence.

The results obtained by these deep injections are certainly, in many cases, among the most satisfactory in the treatment of urethral disease. Although not uniformly successful, they are generally so, and, if the patient is to be benefited, he will show signs of improvement after the first or second injection, as a rule. The treatment may be repeated every three or four days, and in inflammatory trouble a very few injections are generally sufficient. Impotence requires more and stronger injections.

I usually inject after micturition, and use five or six minims of the solution, beginning with one-half per cent. and increasing the strength gradually to two per cent. With a finger in the rectum, in the sulcus between the bulb and the prostate, the tip of the syringe may be felt as it enters the membranous portion, and a too deep insertion of the instrument thereby guarded against. It seems to me that this method of treatment is best adapted for gonorrhœal cystitis and other inflammatory affections of the prostatic urethra. A few cases will best illustrate the effects of the treatment.

CASE II. M. B., aged thirty-three, came to the dispensary August 6, 1887, with acute gonorrhœa, which was treated in the usual way, with diuretics and injections, until August 30th, when the discharge was diminished; but he reported that he had been seized a day or two before with frequent, painful and bloody micturition. In great distress at time of visit; it was impossible to hold water more than an hour, and a small quantity of purulent, bloody urine would then be passed with great pain, and followed by severe vesical tenesmus. A deep injection of nitrate of silver, one-half per cent., was given.

September 1st. Urinary symptoms entirely relieved, but he has pain in testicle; September 3d, testicle greatly swollen.

The patient had an acute epididymitis, which ran the usual course. He considered it a trifle, however,

compared with the suffering he had endured with cystitis. There was no return of urinary symptoms; the relief was prompt, complete and permanent. Whether the epididymitis in this case was the result of the injection, the nozzle of the syringe having been inadvertently pushed too far in, or whether it occurred in the ordinary course of the disease, it is impossible to say.

CASE III. J. H., aged twenty-four, on October 22, 1887, had gonorrhœa of six weeks' duration, with a copious, thin discharge, and for a week had been suffering with frequent micturition with blood at the end of the act, and followed by severe tenesmus. Deep injection of nitrate of silver, one per cent.

October 25th. Great relief for thirty-six hours, then return of symptoms. Injection repeated with a two per cent. solution.

October 27th. Much better. Injection repeated.

October 29th. Continued improvement. Micturition scarcely more frequent than normal. No tenesmus.

CASE IV. B. A., aged twenty-seven, August 21, 1888. First gonorrhœa four years ago; duration, a year and a half. Present attack of three months' duration; copious, purulent discharge. Very frequent and urgent micturition, with vesical tenesmus by day; no trouble at night. First half of urine passed is cloudy, second half slightly turbid. Deep injection of nitrate of silver, one per cent.

August 28th. Marked improvement. Micturition much less frequent. Injection repeated.

September 1st. Micturition normal. Discharge has stopped.

September 11th. Discharge has reappeared. No return of urinary symptoms.

In the treatment of various affections of the deep urethra I have obtained good results from irrigating the neck of the bladder with a solution of permanganate of potash. This is a perfectly safe operation, and subject to none of the risks associated with the deep injections of nitrate of silver. Uitzmann advises complete emptying of the bladder after irrigation; and in cases of acute inflammation, or when other solutions are used, it is probably a wise precaution; but I do not believe that any harm can come from leaving behind a small quantity of a mild permanganate solution. Moderate tenesmus, lasting a short time, is the only disagreeable symptom I have observed with mild solutions, and this is the exception. It has been my practice, at the suggestion of Dr. H. W. Cushing, to leave part of the solution in the bladder, and I have come to regard this as an important factor in the success of the operation. The fluid settles down into the neck of the bladder, as the patient walks about, and has an opportunity to exert its stimulating influence on the mucous membrane for a considerable time before it is decomposed by the freshly secreted urine. Potassium permanganate is rapidly decomposed in the presence of organic matter, and herein lies the safety of leaving this substance in the bladder, for the astringent and stimulating effect, which might become irritating if prolonged, is checked as soon as enough urine is secreted to decompose the solution.

The treatment is conveniently carried out by means of Uitzmann's large irrigating syringe and catheter. (See Fig. 3.) The syringe holds about five ounces of fluid; the catheter is a short metallic instrument, in-

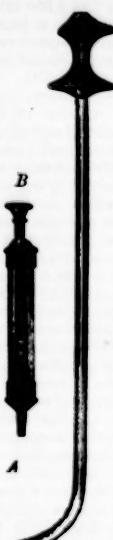


Fig. 2. Uitzmann's Deep Urethral Syringes.

tended to reach only as far as the back part of the membranous portion. A fountain syringe or siphon with an ordinary gum-elastic or soft rubber catheter may be used, but means should be provided for accurately measuring the amount injected. The catheter, having been filled with fluid and the air expelled, is passed just beyond the external sphincter, and four to six ounces of the solution, or as much as the bladder will comfortably hold, are slowly injected and allowed to run out again. This is repeated until the solution comes away with as bright red a tinge as it went in; then two or three ounces are injected into the bladder and left there, the catheter being removed. The patient is then allowed to go, being told to hold his water as long as he can without positive discomfort. I usually begin with a 1 to 4,000 or 5,000 solution, and gradually increase the strength. Solutions stronger than 1 to 2,000 are not as a rule well borne, and those weaker than the first-mentioned are so rapidly decomposed as to accomplish little. Solutions of a strength of 1 to 3,000 and of 1 to 2,000 are the most useful.

After employing this method in two or three cases of prostatorrhœa with success, it was tried in several cases of cystitis and in one case of spermatorrhœa.

Like every other treatment it sometimes fails, but improvement may be expected and entire relief of symptoms has followed in many cases. If good is to result it is soon apparent and a few injections only are necessary, as a rule, to bring about the desired effect. The following are a few illustrative cases.

CASE V. A. C., age forty-six, in very poor general health, came to the dispensary September 18, 1888, with gonorrhœa of two weeks' duration; thin, purulent discharge, chordee, and frequent, urgent, painful micturition with vesical tenesmus. He was treated with diuretics and tonics, with only temporary relief of the urinary symptoms, until October 2d, when the bladder was irrigated with a solution of potassium permanganate 1 to 4,000, two ounces being left in.

October 6th. Relief for a few hours after irrigation, but vesical symptoms have now returned. Irrigation repeated with a 1 to 3,000 solution.

October 9th. Improvement. Irrigation with a 1 to 2,000 solution.

October 13th. Urinary symptoms entirely relieved.

October 20th. Micturition normal.

CASE VI. A. R., age seventy, with no venereal history, complained, September 27, 1888, of frequent micturition with severe tenesmus and blood at the end of each act. Urine nearly clear. Small amount of residual urine. Prostate moderately enlarged. He was treated with diuretics until October 9th, when there was no improvement and he was irrigated with a

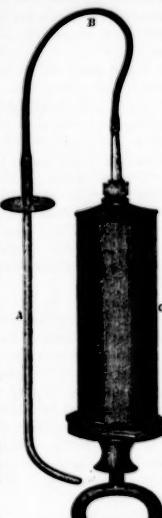


Fig. 3. Ulzmann's Syringe-Catheter.

permanganate solution, 1 to 3,000, two ounces being left in the bladder.

October 13th. Great improvement. Irrigation with a 1 to 2,000 solution. The patient did not return, but was seen a year later and said that he made a rapid and complete recovery after the last visit. The cause of the vesical symptoms in this case is obscure.

CASE VII. L. E., age twenty-two years, no venereal history.

October 18, 1888. For six weeks has been troubled with frequent and painful micturition with vesical tenesmus; occasionally passes a small amount of blood. Urine turbid; when passed in two glasses the last half is slightly tinged with blood and contains whitish clumps which, under the microscope, prove to be only fibrin. A few days later the urine contained a heavy sediment of pus, most of which was passed toward the end of micturition, and a little blood; albumen one-quarter per cent. Prostate slightly enlarged and moderately sensitive. Was treated with diuretics with some improvement in subjective symptoms and in character of urine, but none as to frequency and precipitancy of micturition, until October 27th, when the bladder was irrigated with permanganate solution 1 to 3,000 and some fibrinous shreds washed out. Two ounces of the solution were left in the bladder.

October 30th. Marked improvement. Can hold water longer. Urine clearer. Irrigation repeated with the same strength of solution. He improved rapidly after this without further local treatment. He was seen a year later and said that his recovery was complete and permanent.

CASE VIII. F. G., age twenty-one, tall, well built and apparently in perfect health, was first seen February 29, 1888, and gave the following history. First gonorrhœa a year ago; second, three months ago, duration six weeks. Ever since this last attack he has had a discharge after micturition and defecation of a whitish,ropy substance. He says that sexual desire and power are diminished, but does not feel in the least nervous or anxious about his condition. General health perfect.

The patient urinated in my presence and immediately afterward passed, with very slight effort, about a teaspoonful of the substance described above which, under the microscope, proved to be pure semen. He was given pills of iron, ergotin and strychnia and was not seen again until September 12th.

He then reported that he had taken the pills only three weeks and the discharge of semen had continued uninterruptedly, although he could sometimes prevent it by avoiding straining after evacuating the bladder or rectum. His general health continued good and he had regained sexual power and desire. He again produced some semen for examination, although not quite as much as before, and it showed the same characteristics under the microscope. He was directed to resume the pills and the neck of the bladder was irrigated with a solution of potassium permanganate 1 to 5,000, two ounces being left in. The irrigation was repeated as follows, with a gradual diminution in the amount and frequency of the discharge: September 17th, 1 to 3,000; September 21st, 1 to 2,000; September 24th, 1 to 1,500; September 28th, 1 to 1,000.

October 3d. The last injection was followed by severe pain and urgent desire to urinate which was resisted for an hour, and then micturition was very painful, especially at the end, and accompanied with

the discharge of a thick reddish substance in clumps (permanganate). Very little pain after this. No seminal discharge. Local treatment suspended. Pills continued.

This patient has been recently seen and reports that there has never been the least return of the seminal discharge and he has remained well in all other respects.

GONORRHEA IN WOMEN.

Gonorrhœa in women has been a good deal written about in recent years and there is great difference of opinion as to pathology, especially in regard to the relative frequency with which different parts are invaded. Some authorities think that urethritis is present in every case of gonorrhœa, others consider it as an occasional complication only. Bartholini's glands are commonly, or rarely, involved, according to the views of one writer or another. Some maintain that the disease rarely extends beyond the cervix, while others, Sinclair for instance, of Manchester, Eng., following Noegerath, regard implication of the uterus and its appendages as the great danger and believe that it will almost surely follow if the progress of the disease be not promptly checked.

As for the vagina it probably always has been and still is commonly looked upon as a favorite seat of gonorrhœa. Yet Sigmund⁴ and Steinschneider⁵ of Neisser's clinic in Braslau, declare that gonococci do not settle upon the mucous membrane of the vulva or vagina; and Sinclair says "it is still a question whether there is any such thing as gonorrhœal vaginitis. The vagina seems to be the last portion of the genital tract, from the uterus downwards, to become affected, and the first to get well under any suitable cleansing process."⁶ He thinks, however, that the vagina in children and young girls may provide a more favorable breeding ground for the micro-organisms. Bunn⁷'s researches furnish strong evidence of the non-existence of vaginal gonorrhœa. He cut out bits of suspected mucous membrane and examined them microscopically with negative result, and also kept gonorrhœal pus in direct contact with the vaginal wall twelve hours without setting up vaginitis. The discovery of gonococci in the secretion about the vulva or in the vagina, of course, does not prove that the vulvar or vaginal mucous membrane is affected, for they may have come from the urethra or cervix.

In most that has been written on treatment, a good deal of space is taken up in detailed descriptions of elaborate and more or less severe methods of treating the vagina — scraping, scrubbing, cauterizing and packing. It seems to me that we should satisfy ourselves that gonorrhœal vaginitis really exists before resorting to measures, as routine treatment, so heroic and so difficult to thoroughly carry out. I believe that frequent douching with fairly strong antiseptic solutions will be found efficient, as far as the vagina is concerned, in a large majority of cases.

The urethra should be carefully attended to, for here the disease is apt to linger. Copaiba and other internal remedies used in the male may be employed. Skene⁸ advises injections of nitrate of silver and sul-

phate of zinc, with suppositories of iodoform or bis-muth. Finger,⁹ of Vienna, applies, through an endoscope, tincture of iodine or solution of nitrate of silver, two to five per cent. Aubert,¹⁰ of Lyons, gives injections of nitrate of silver, or passes the solid stick rapidly into the urethra. Erand,¹¹ of Lyons, curettes the urethra, and then applies nitrate of silver. Cullingworth¹² of St. Thomas' Hospital, London, passes into the urethra a sound wound with cotton and dipped in strong carbolic acid.

The three surgeons last mentioned treat the cervix as they do the urethra, that is, with solid nitrate of silver, curette, and strong carbolic acid respectively, carrying the applications up to the fundus, if necessary. Sinclair injects pure tincture of iodine into the uterus.

Within the last year improved facilities have been provided for the treatment of women in the Genito-Urinary Department of the Boston Dispensary, and more attention has been paid to patients of this class than before. The treatment has been more or less experimental, but many of the cases have shown marked improvement. It has been found difficult, however, to induce the patients to come regularly and to persevere in treatment after they have improved so far as to be free from actual discomfort. The scientific value of the records, therefore, is not as great as could be wished. By way of giving an outline of the treatment I have followed, and in the hope of exciting criticism and discussion, I report the following case:

CASE IX. Julia B., age twenty-eight, on September 12, 1889, had a discharge of two months' duration. She had had more or less leucorrhœa for ten years. Physical examination showed the following condition: Considerable purulent, urethral discharge; also a vaginal discharge and a copious, glairy, muco-purulent discharge from the cervix uteri, with erosion of the os. Microscopic examination, by Dr. E. M. Greene, showed numerous gonococci in the urethral and cervical discharge, but none in the vagina.

The following method of treatment was adopted: The vagina was first thoroughly irrigated with a solution of corrosive sublimate 1 to 5,000, and the vulva carefully cleaned with the same solution. Then, a speculum having been passed, theropy discharge clinging to the os was wiped away, and the cervix cleaned out as thoroughly as possible. An application of carbolic acid (95 per cent.) was then made to the cervical canal as far as the internal os, by means of a sound wound with cotton, and also to the erosions about the external os. The speculum was then slowly withdrawn, and any secretion seen on the vaginal walls was wiped off with a swab wet with the sublimate solution. An ordinary, small-sized, soft rubber catheter was next passed into the urethra, and this canal was irrigated with the 1 to 5,000 corrosive sublimate solution. A suppository, or short bougie, of iodoform was then inserted into the urethra and held there until it melted. At home the patient used as a douche, twice daily, a solution of zinc sulphate and alum, two grains of each to the ounce. This was changed later to a four per cent. solution of boric acid.

The local treatment was repeated three times a week, and at the seventh visit there was still a slight urethral

⁴ Annual of the Universal Medical Sciences, 1888, vol. ii, p. 441.

⁵ Berliner klinische Woehenschrift, April 23, 1887.

⁶ On Gonorrhœal Infection in Women, London, 1888, p. 82.

⁷ Über gonorrhœische Mischninfection beim Weibe. Wiesbaden, 1887.

⁸ Diseases of Women, p. 221.

⁹ Die Blennorrhœe der Sexual-Organen. Leipzig und Wien, 1888, p. 247.

¹⁰ Journal of Cutaneous and Genito-Urinary Diseases, March, 1889.

¹¹ Journal of Cutaneous and Genito-Urinary Diseases, November, 1889.

¹² Braithwaite's Retrospect, January, 1890, p. 196.

and cervical discharge, but the gonococci had disappeared. The treatment was then interrupted by menstruation, and at the next visit was suspended, the urethral discharge having stopped and the pus having disappeared from the cervical discharge. The erosions about the os were entirely healed.

The patient was seen again January 2, 1890, and was found to have a slight urethral discharge containing gonococci. There was also some vaginal discharge or leucorrhœa, and a moderate amount of colorless, transparent,ropy, cervical discharge. The os looked perfectly normal. There were no gonococci in the vagina or cervix.

Corrosive sublimate irrigation of the vagina and urethra was resumed. The gonococci disappeared from the urethra in a short time, but the irrigations were kept up, at irregular intervals, for several weeks. When occasionally a slight, thin secretion could be, with difficulty, pressed from the urethra, it was examined under the microscope, but always with negative result. At the last visit there was no trace of discharge.

It is probably a wise precaution to keep up the irrigation, at more or less frequent intervals, for some time after the urethral discharge disappears. The patient should be directed to hold her water as long as possible before the visit, in order that any trace of discharge may be discovered.

EPIDEMIC INFLUENZA AND INSANITY.¹

BY ARTHUR H. HARRINGTON, M.D., OF DANVERS.

WHEN I had the honor of receiving an invitation from the chairman of the Medical Section to present a paper at this time, it occurred to me that it would be pardonable if I referred to some cases which I reported a few weeks ago at a meeting of the South Essex District.

These cases, which are instances of insanity developing together with or after an attack of the influenza, may be of interest to you, considered as one of the phases of the recent epidemic. In addition to the original paper, I have, through the kindness of a number of medical gentlemen, been able to obtain some useful material upon this subject, so that we shall have for our consideration the observations of others rather than mine alone.

In looking over the history of the various epidemics of influenza, we find careful descriptions of the thoracic, the abdominal, and the nervous types of the disease,—under the latter are included the general nervous or cerebral disturbances. Now, such cerebral disturbances as headache, insomnia, somnolence, delirium, etc., receive attention; but, in the literature which I have been able to consult, the statements touching upon the purely mental disturbances or psychoses are of a most general character. And this is my reason for presenting this subject somewhat in detail, and mainly from a clinical standpoint.

Before taking up these cases, if you will allow me, I should like to remind you of the limitations to which one is subject in attempting to assign the cause or causes of insanity in a given case. Probably in this class of affections the predisposing causes play a more

prominent part than in almost any other. This fact is often overlooked, no doubt, and many times what are put down as the prime causes are really only the secondary or exciting. Moreover, it is rarely that a single cause can be fastened upon and held responsible alone for the mental disturbance.

These considerations have been kept in view in studying these cases, as complete a previous history as could be gained was taken of each, and it was found that, of the cases at the Danvers Hospital, with one exception,—and in this instance the previous history was not ascertained,—there existed predisposing causes, congenital and acquired, but it seemed quite certain that the attack of influenza, with its febrile symptoms, its tendency to cause great physical and nervous depression, was the final weight which turned the scale.

It was found that a classification based upon the previous histories could be made, into which the cases fall quite naturally. This classification is not an essential one, but is made to facilitate our easy comprehension of the cases.

I will state that I am indebted for the data of the female cases to my colleague, Dr. M. A. Jewett.

CASES I and II are instances in which the patients had been insane, but had recovered. An attack of influenza seems to have been the exciting cause of another attack of insanity. Case I, a female, aged sixty, has had two attacks of acute mania, treated at the Worcester and Danvers Hospitals. She was well mentally and living with her family when attacked with the influenza, January 10th. She very soon became restless, confused, passed into a maniacal state, and was admitted to the Danvers Hospital ten days later, where she died after a few days from exhaustion. Case II, a female patient, aged twenty-three, has had one attack of acute mania, from which she recovered. She was attacked with the influenza, and soon afterwards maniacal symptoms appeared. She was admitted to the hospital January 9th, where she continued in an acutely maniacal state for four days. At the end of this time her maniacal symptoms subsided and she became quite rational. A month after admission she appeared to have made a complete recovery. This attack must be regarded as presenting all the motor excitement of acute mania; but the delirium which the patient exhibited was more like that of an acute febrile disease. Attention is called in this case to the prompt recovery, which began with the subsidence of the acute bodily symptoms.

CASES III, IV, V and VI are instances in which there had existed, for longer or shorter periods, enfeebled physical conditions from various causes, and which were very likely preparing the way for a mental breakdown, but in which the influenza seems to have been the exciting cause of the attack of insanity.

CASE III, a female, aged thirty, has had symptoms of phthisis for two years, and last July had a severe attack of pleurisy, which weakened her very much. In addition to these debilitating causes she had been nursing her child for twenty months. Her friends state that she was completely run down, but never showed any signs of insanity until attacked with "La Grippe," when she became restless, sleepless, then maniacal, refused nourishment and resisted attentions. She died from exhaustion and capillary bronchitis nineteen days after admission to the hospital. In this instance doubtless, phthisis, pleurisy and prolonged

¹ Read before the Massachusetts Medical Society, June 10, 1890, and recommended for publication by the Society.

lactation were contributing causes to an attack of insanity, which was precipitated by the additional depressing effects of the influenza.

CASE IV, a domestic, aged twenty-five, has been feeling "poorly," nervous and debilitated for two months, and left her place on this account. She was attacked with the influenza, and was sent to the Boston City Hospital, where she became frightened, thought some one was going to kill her, and tried to jump out of the window. She was sent to the Danvers Hospital, where she was restless and stubborn for a time. At the end of a month she was better, though somewhat confused and dull. She was discharged four months after admission. Her progress had been slow, but steady, and she left the hospital with a fair chance of making a complete recovery.

CASE V, a male, aged thirty, a native of France, has been in the country a few months. When attacked with the influenza he developed hallucinations of smell, detected a strong odor as of some poisonous substance on his pillow, thought the landlady was attempting to poison him in order to get his money. He became frightened. In order to attract the police and get protection he broke his window, shouted for help, and fired a pistol into the street. He was committed to the hospital December 30th. He was weak and emaciated, and aside from the pulmonary symptoms of the influenza, he was thought to be suffering from phthisis. He was quiet and polite on admission, but during the evening attempted suicide. The next morning he regretted his action, but confirmed the delusions mentioned above. As he recovered from the influenza the hallucinations of smell disappeared, and two weeks after his admission, while he recognized his actions and many of his ideas as foolish, yet he was not able to dispossess himself wholly of the belief that his landlady had attempted to poison him. This belief remains like a "fixed idea," and it is not unlikely that in this instance the attack of influenza was the exciting cause of a mental disorder which may become chronic.

From a psychological point of view this case is very interesting, as showing the apparent origin of the delusional ideas in the hallucinations of smell,—these latter or at least disorders in olfactory sensation and perception being not an uncommon symptom connected with the influenza.

CASE VI, a gentleman, aged sixty, was thought to have had a slight apoplectic attack two years ago. His physical health from that time has been poor, and he has been subjected to severe mental strain and worry growing out of business affairs. He was much prostrated by an attack of influenza, and did not gain strength again, and after three weeks he began to show signs of mental derangement, and was sent to the Danvers Hospital. This case proved to be an excellent example of acute confusional insanity, a form which will be referred to again. The patient's death, which occurred in three weeks after admission, was due to exhaustion and capillary bronchitis.

CASES VII, VIII and IX were individuals evidently belonging to a well-known class; the characteristics of its members are, that they are the possessors from birth of a bad physical organization and are of a low grade of intellect. Such persons often break down mentally early in life, from comparatively slight causes.

CASE VII was a boy, aged seventeen. His mental

disorder was that of acute confusional insanity. He made a rapid and complete recovery, and was discharged in a few weeks.

CASE VIII. This was another instance of acute confusional insanity, in a young woman aged twenty-five. Her mental symptoms cleared up to a great extent, but she could not be said to have recovered fully when discharged. In the last two cases the mental disorder developed while the subjects were suffering from the acute effects of the influenza, and with improving health the mental condition improved also.

CASE IX. In a colored woman, aged twenty-five, an attack of the influenza was followed immediately by acute mania. She was admitted to the hospital, and died very suddenly. A post-mortem revealed cardiac thrombosis.

CASES X and XI taken together are interesting. At various times they had been given to the excessive use of alcoholics. An attack of the influenza seems to have given rise to certain mental symptoms which are sometimes observed after prolonged drinking. Case X, a male, aged fifty-one, has been a periodic drinker for years. When getting over a drinking spell he would almost always have a period of profound depression, and would be suicidal. During one of these periods, in 1886, he came near destroying himself by cutting his throat, and was at the Danvers Hospital for a time. He was admitted again January 1, 1890. The statement was that he had been working steadily, for several months, up to the time of his attack of influenza, and his friends asserted that he had not drunk of late. While suffering from the influenza he grew sleepless and despondent, took no nourishment, then became violent and suicidal. After coming to the hospital he remained greatly depressed. His death occurred after a few days from capillary bronchitis and cardiac complications. The point to be noticed in this instance is that an attack of great mental depression with suicidal tendency, exactly like the attacks which followed his periods of excessive drinking, developed simultaneously with an attack of influenza.

CASE XI. A young man, aged twenty-seven, has been in the habit of drinking a good deal, but has never been affected by it mentally. Was attacked with the influenza and confined in the house for ten days. During this time he had no liquor, but hallucinations of hearing began to trouble him, and disturbed him to such an extent that he was sent to the Danvers Hospital. The committing physicians also stated in their certificate that they thought his mental trouble due to the "Grippe." As soon as this patient began to improve physically, his hallucinations wholly disappeared. Hallucinations of hearing, as we all know, are a very common result of prolonged drinking, but this patient seems never to have suffered from them until attacked with the influenza. In this instance the use of alcoholics had probably made the conditions favorable for the development of hallucinations, and the acute illness seems to have been their exciting cause.

In a recent report of eleven cases of insanity after influenza, by Kraepelin, he cites a case in which a man, who had been addicted to alcoholic excess, developed a typical delirium tremens when attacked by the influenza.

CASE XII, the only one of the cases seen at the

Danvers Hospital, whose previous history was not ascertained, and in whom no predisposing cause of insanity was found, was a case of acute confusional insanity. He made a complete recovery in a few weeks.

In making a few general remarks upon these twelve cases, I will say that the physical as well as the mental symptoms were of a very marked character. The patients, when admitted, had the facies of an acute exhausting disease; there was the great depression of the physical forces and the acute bronchitis with a profuse muco-purulent expectoration which characterized the epidemic disease. As for the mental symptoms, out of these twelve cases, four were excellent examples of acute confusional insanity, and six of the remaining cases presented some symptoms which would remind one strongly of that type.

By acute confusional insanity is meant a form which resembles acute mania, and, as far as outward appearances go, might readily pass for acute mania, but at the bottom of which there is no emotional disturbance as in acute mania, the conceptional sphere is dimmed, consciousness is blurred, and patients recovering have a crude recollection of their condition. When hallucinations predominate, this is called by some "acute hallucinatory insanity." This form most often develops on the basis of acute, exhausting and depressing diseases, the very factors which were present in the cases which have been cited, and which would account for their general leaning towards the type of acute confusional insanity.

Of these twelve cases, those which recovered or improved did so promptly as soon as the physical condition improved. The mortality in the twelve cases named was large, and was due to the exhausted condition of the patient, together with cardiac and pulmonary complications.

The study of these twelve cases led me to a desire to learn the experience of other hospitals during the recent epidemic. Accordingly, I sent out a number of circular letters, and I received replies from the superintendents and medical officers of twenty-two institutions. I desire to express my thanks for their courtesy in answering my questions so promptly and carefully.

The letter comprised six questions, and the replies were both negative and affirmative, and I will give the sum of them very briefly:

First Question. — In how many cases of insanity has the influenza been regarded as the exciting cause?

In ten hospitals out of the twenty-two no cases had been observed. In the remaining twelve hospitals the aggregate number of cases admitted, thought to be due to the influenza as their exciting cause, was thirty-six.

Second Question. — In how many of these cases has the influenza been the only assignable cause? The answer was sixteen out of the thirty-six.

Third and Fourth Questions. — How many cases have recovered, and how many have died? Twelve had recovered and two had died out of the thirty-six cases.

Fifth Question. — What forms of insanity have been observed? I give the diagnoses, of course, just as I received them, and for convenience will include here the twelve cases of the Danvers Hospital. So that out of forty-eight cases, seventeen were acute mania; fourteen acute melancholia; five primary confusional

insanity; two each of simple mania, simple depression and delusional insanity; one each of acute delirious mania, acute febrile delirium, acute dementia, senile mania, apoplectic dementia and alcoholic dementia.

Sixth Question. — Have the mental symptoms as a general thing presented any peculiar features due perhaps to the influence of the epidemic disease? The answers to this question quite generally bore out some observations of my own. Among them I will quote the following:

Dr. C. M. Hay, of the State Asylum at Morris Plains, says, "Generally the insanities in these cases have been of a very marked type, but whether this was due simply to the exhaustion in which the mental affection found them or was connected with a specific toxæmia I cannot say." Dr. Cowles of the McLean Asylum states, "I do not know that the mental symptoms have presented any notable peculiarity except the tendency to prompt recovery as if upon the abatement of some debilitating or depressing influences."

Another question which might have been asked, namely: What effect has the influenza had upon those already insane when attacked by it? was suggested afterwards by a report of some cases by Dr. Paine of the Westborough Homeopathic Hospital and which appeared in the *Boston Herald* of April 24th. I have been referred by Dr. Paine to this report, so I take for granted that he was correctly quoted. Dr. Paine, you may remember, reported some cases suffering with chronic forms of insanity who recovered mentally after an attack of the influenza, to which he attributes their recovery.

Unfortunately of the thirty per cent. of the insane population at Danvers Hospital who suffered from the influenza none seemed to be cured by it. In fact the mental symptoms were augmented rather than diminished even remarkably so in four cases.

Dr. Lyon, of the Bloomingdale Asylum, says, "I may add that I have seen no such remarkable cures from chronic insanity or any other form, effected by the 'grippe,' as I have read of." Dr. Park, of the Worcester Hospital, says, "We have had no cases of recovery from chronic mania due to 'grippe.'"

CONCLUSIONS.

This paper has not aimed to gather the statistics of the relation of the recent epidemic of influenza to insanity. This would be a difficult and uncertain task. It is quite likely that in many cases attention was not given to the subject, and the most that can be learned will probably be found in the annual reports of the institutions when they shall be issued. But taking the cases of the Danvers Hospital and those reported from other hospitals, we have forty-eight cases in which an attack of the influenza was followed immediately or in a short time by the development of a psychosis. In thirty-one cases the influenza acted as an exciting cause to insanity, predisposing and other exciting causes being clearly made out. In seventeen cases the influenza was the only assignable cause of insanity. I incline to the belief that if the antecedents of these seventeen cases could be thoroughly analyzed, this number seventeen, in whom no predisposing causes were known, would be diminished and that we might approach nearer a conclusion made by Kraepelin, namely: that the influenza alone is not sufficient to occasion the development of a psychosis.

Of the total forty-eight cases, sixteen recovered.

Considering that in hospitals the average number of recoveries in new cases is only from fifteen per cent. to twenty per cent., the recovery of thirty-three per cent. of these cases is worthy of remark.

Cases of insanity excited by the influenza have shown a greater tendency to prompt recovery or improvement than is usual in recent cases. In most instances the improvement has been coincident with the abatement of the acute bodily symptoms and the return to physical strength and health.

Finally, out of these forty-eight cases, while I cannot include them all in a classification, yet it is quite easy to recognize three main groups, namely:

(1) Cases of simple depression and hypochondria. Many such instances were no doubt seen by those in general practice during the epidemic, but in which the mental disturbance did not proceed far enough to demand hospital treatment.

(2) Cases in which the emotional disturbance was carried farther than in the first group, resulting in acute forms of mania and melancholia.

(3) A considerable proportion of cases which developed on the basis of bodily exhaustion and depression of the nervous forces, namely: the cases of delirious mania, febrile delirium, and especially those of acute confusional insanity, which appears to me to be the type towards which the symptoms in many cases have inclined.

HYALINE-FIBROID OVARIAN DISEASE.¹

BY RENÉE GIBBS, M.D.,
Professor of Pathology, University of Michigan.

In January of this year I published a paper in the *Boston Medical and Surgical Journal*, on the "Origin of Ovarian Cysts." Since then I have examined a number of ovaries, and can now add something to the facts stated in that paper. I then gave three causes for the origin of cysts in the ovaries: (1) an overgrowth of normal tissue, supposed to be of embryonic character; (2) dilatation of Graafian follicles; (3) Hyaline degeneration of the ovarian stroma. Further investigation inclines me to think that this latter form is a much more frequent cause of ovarian disease, at any rate in young patients, than the other two; and I wish to say a few words on this peculiar change. I have called it hyaline degeneration; and from the examination of a large number of ovaries removed during life, I am convinced that a large majority are affected by this change. The term hyaline degeneration conveys no clear impression to the mind of what the change is, further than that it is a homogeneous material into which the normal ovarian stroma is trans-formed.

It is important, therefore, to find out the nature of the new formation, and then, if possible, its preventive or cure. To establish its precise nature, I have made a number of experiments with reagents, with a view to finding out its chemical nature and the normal tissue to which it corresponds. I am now satisfied that it is not a degeneration, in the strict sense of the word, but a new formation of fibrous tissue of a peculiar character. I will not give an account here of the numerous experiments I have made, as it would prove tedious, but will state their results. In the first place, we all know that in whatever condition white fibrous

tissue is found normally in the human body, it has always associated with it connective-tissue corpuscles; and when this tissue is in a young, growing state, then these corpuscles will be very numerous. This is also seen in rapid new growths of fibrous tissues, such as keloid, where the connective-tissue corpuscles are distributed in enormous numbers among the rapidly growing fibrous tissue. This is exactly what is found in the new growth in the ovary. At first, narrow, sinuous bands of fibrous tissue appear in the ovarian stroma. They become larger and many in number, always having the same peculiar, tortuous arrangement. Between these bands are numbers of branched connective-tissue corpuscles, closely applied to the fibrous tissue. The chemical reaction of this new growth is similar to that of white fibrous tissue growing rapidly under other conditions; and the relation of the connective-tissue corpuscles to it is also seen in other normal and abnormal conditions. I consider, therefore, that I am justified in calling this a growth of fibrous tissue of a peculiar kind.

Now this fibrous change is not peculiar to the ovary. I have found exactly similar conditions in the lungs in tuberculosis, and in slow-growing carcinoma, and an almost similar change in slow-growing sarcoma. These cases were all of slow growth. The lungs were invaded by reticular tubercle; and the disease had existed for two or three years. In all there was chronic irritation. Now, what we want to know is, What caused a new growth of fibrous tissue that, in the case of the ovary, could break down to form a cyst. I must here state that in all these formations the new growth became extensive, and being probably of low vitality, with a deficient nutrient supply, the central portion, after a time, broke down, and formed a cavity, this filled with fluid, as all cavities in the ovary are prone to do, and gradual dilatation took place, ending in the formation of a large cyst.

In a state of nature, unfettered by civilization, the human female was probably intended to conceive and bear young as other animals do; and in this way the ovary could perform its function at periodical intervals with intervening periods of rest, we have, however, altered all this. A large majority of women pass through that period of their lives when their sexual organs are in their highest functional condition, without there being any opportunity for the exercise of these functions. This, of itself, would not prove prejudicial to health; but when un congenital employment and surroundings are added, is it any wonder that something goes wrong?

Women at the present time are pushing more and more into conditions of life which are eminently unsuitable to them, but they are forced to do so under existing circumstances. Any one who has lived amongst people in a semi-savage state, knows how little the females suffer from diseases of their sexual organs and what an extremely simple matter parturition is. But take the everyday life of a working-girl who has, in many cases, to be on her feet all day, often in a close, unhealthy atmosphere, or under many other conditions all more or less unhealthy — this going on during the menstrual period, what is the result? A condition of anemic dyspepsia; and after this has existed some time, comes leucorrhœa, bearing-down pains, pain in the back, etc. Now, if the patient be examined in an early stage of this condition, it will generally be found that one of the ovaries is enlarged and tender; and in

¹ Read before the Michigan State Medical Association, Grand Rapids, June 19, 1890.

the majority of cases, it will be the left. The pain can often be traced to this ovary, and will be found to extend down the front of the thigh, or in towards the spine in the lumbar region. This condition of things seem to be brought about by an unhealthy condition of life reacting on an organ in full functional activity, but called on to perform that function continuously and without that period of rest intended by nature.

This is the acute stage, and may exist for a long time, but is certain, if not relieved, to become chronic, that is, to produce structural change. We know that, after a time, an acute disease becomes chronic, and produces change in an organ, and that these changes vary with the organ and the exciting cause. It is therefore quite probable that a long-continued irritation, acting on such an organ as the ovary under the conditions I have named, would be likely to produce those changes which I have found in nine-tenths of the ovaries I have examined.

The organs are also sometimes subjected to abnormal excitement, both in the married and unmarried, which I need only allude to here, but which must be very prejudicial to their well-being. In a large outpatient practice in London I had abundant opportunity for studying these cases, and I found no difficulty in curing them when taken in time. My treatment was first for the dyspepsia, then the anæmia, and concurrently with this counter-irritation over the affected ovary. I had many cases under observation for years with no return of the symptoms.

I have lately received ovaries from Dr. Minar of Bay City, Dr. Manton of Detroit, and a number of others, and they all show this same fibrous change. The ovary received from Dr. Minar has, in addition, a large cyst lined by columnar epithelium, which I am inclined to think is caused by the inclusion of a portion of the fallopian tube in the hypertrophic growth.

The ordinary pathological change, then, that is found in ovaries removed during life, is of the nature described. The same change occurring in other conditions show that the cause is a chronic irritation. This irritation, in the case of the ovaries, is probably of nervous origin, and is brought about by an abnormal condition of the patient and her surroundings. It also begins in an acute form, which, from an experience extending over a number of years among a class of women peculiarly liable by their work and everyday life to this affection, I have found to be easily curable if taken in an early stage.

REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

THE INFLUENCE OF INFLUENZA ON THE FEMALE SEXUAL ORGANS.

WHEN epidemic influenza may again haplessly prevail, the medical profession will be better informed as to its probable effects in causing or modifying other phases of disease. Much has been, and more will be, written on the immediate and remote results of influenza; and from many observations will be deduced, doubtless, facts of interest and value.

MÜLLER¹ (Munich) has observed fifty-one cases of influenza in women, three of whom were pregnant; and his paper is an interesting contribution to the sub-

ject. Of the forty-eight cases of influenza in the non-pregnant, Müller believes that the genital affections found present when he saw them were induced by influenza in forty-six instances: in one case, the sexual organs appeared to be in no way affected; and in one other case the epidemic influenza on these organs was undecided.

The important symptom by which the epidemic influenza manifested itself in the non-gravid was profuse metrorrhagia, which was characterized by its long continuance and great resistance to ordinary measures for relief. The bleeding was accompanied by swelling and sensitiveness, and enlargement of the uterus.

In the three gravid cases affected with influenza, pregnancy was interrupted in two instances: in the third case pregnancy was not in the least affected by the disease. The first case, in the eighth week of her fourth pregnancy, took sick with mild symptoms of influenza, and with the appearance of the first symptoms was seized with profuse uterine hemorrhage which resulted in abortion. The bleeding was so severe from the beginning, that when seen by Müller she showed symptoms of collapse; and the hemorrhage continued profuse for several days in spite of energetic treatment. Other causes of the abortion were sought for; but nothing could be found to account for it in the history of the three preceding weeks. The ovum presented no abnormality.

The second case was in the eighth month when seized with violent symptoms of influenza: there was cough, but not of such severity as to have caused premature labor by concussion. With the invasion of influenza uterine contractions set in which lasted four days and finally resulted in the expulsion of the fetus in spite of treatment to prevent it. The loss of blood was considerable. The influenza had considerably diminished in intensity by the end of four days, but continued for eight days after delivery. In other respects the puerperium was normal, and involution was not retarded.

Both of these cases were multiparous; but the third case was that of a primigravida, who, while in the third month, had a severe attack of influenza with fever, bronchial catarrh, and almost continuous, severe cough. The sickness lasted eight days; but the pregnancy was in nowise affected.

MEASLES IN PREGNANCY.

The occurrence of measles during pregnancy is so infrequently observed that the following case, reported by LOMER² (Hamburg), is of interest:

A primigravida, aged twenty-two, who had always been healthy and had never had measles as a child, expected her delivery in the middle of July. On June 7th, while a severe epidemic of measles prevailed in her town, she was suddenly seized with chills, cough, fever, burning in the eyes, and diarrhoea. Next day labor supervened, and in seven hours she was spontaneously delivered of a premature, living child. When seen the next morning, the eruption of measles was found on both mother and child: on the mother, distributed over the whole body; on the child, on forehead and chest. On the fifth day the mother was taken with pneumonia, from which, however, she recovered after a long sickness: the child died in four weeks of intestinal catarrh.

Cases of measles complicating pregnancy have been

¹ Centralblatt für Gynäkologie, 1890, No. 17.

² Centralblatt für Gynäkologie, 1889, 48.

seldom described, and the text-books have little to say on the subject. Lomer quotes from an article by GAUTIER,² who was able to collect from the literature only eleven cases, of which most were of ancient date and defectively reported. Among these eleven cases, in six was the mother infected during the last month of pregnancy, and in all six cases the infants were said to have been born with the eruption of measles, or the exanthem appeared soon after birth. On the other hand, in a case observed by Gautier, the infant was born free from the eruption, which moreover did not appear subsequently, although the child was suckled by the mother. In the other four cases collected by Gautier, the infection led to interruption of the pregnancy, and two mothers died.

RELAXATION AND RUPTURE OF THE PELVIC ARTICULATIONS.

Under this title REMY⁴ describes two cases observed by him. In the first case, a relaxation of the left sacro-iliac articulation occurred in the spontaneous labor of a very strong girl. The lesion manifested itself by acute pain when the patient attempted to get up: a supporting girdle gave great relief; but a number of months were required for permanent cure. [This case is not without medico-legal interest as showing that injury to the pelvic articulations may occur in non-instrumental deliveries.]

In the second case separation of the pubic symphysis occurred with a loud cracking sound during forceps extraction of a large child through a generally contracted pelvis. Recovery took place after many months, and nineteen months later the patient easily bore a child without artificial assistance.

HÆMATOMA VULVÆ.

LIGTERINK⁵ (Kralingen) reports two cases of this affection:

(1) A quintipara had been normally delivered by a midwife, after half an hour's labor: the placenta came spontaneously, and the uterus contracted well. An hour later the woman complained of pain in the perineum, radiating to the left leg. Three hours afterwards Ligterink found the left labium majus swollen to the size of the fist: the tumor was dark blue, the skin much stretched and almost transparent. There were no varices on the labia majora or legs. The uterus was higher than normal and inclined to the right: the bladder was empty, and in the left iliac fossa there was marked resistance and dulness. On friction of the uterus no more blood escaped than is customary four hours after labor.

Vaginal examination disclosed a tumor, which distended the left vaginal wall and reached up to the fornix. The conjecture that the bleeding had extended above the pelvic fascia was confirmed by the increase of dulness during the first hour of observation and by its persistence in spite of catharsis. The temperature was 37.8°, and the pulse 80. The treatment prescribed was absolute rest, a vaginal douche with a sublimate solution (1 to 3,000), an ice-bladder in the vagina as well as on the perineum, labium majus, and iliac fossa: also ergotin and morphia subcutaneously.

On the fifth day there appeared on the left labium near the posterior commissure a gangrenous spot,

which next day had increased to two inches in diameter: a free incision was made at this point, and the cavity tamponed with iodoform gauze. Complete recovery took place four weeks after labor.

(2) This case occurred in a non-pregnant woman, who, in falling, had struck her perineum on the point of a wooden shoe. There was no external bleeding and no wound; but two hours later the perineum began to swell and to be painful. Next day Ligterink found the right labium majus swollen to almost the size of the fist and ecchymosed. The right vaginal wall was also involved to the extent of about two inches. The same treatment was prescribed as in the first case. In due time the tumor emptied itself spontaneously: healing took place in four weeks.

[Vulvar hematomata are not of common occurrence either during or after labor, although traumatic cases may of course occur from any suitable injury. It would seem that they would be most commonly observed when the labia are the seat of varices. When developed *inter partum* they may cause decided obstruction to delivery. The treatment of *post partum* cases is well presented by Ligterink: for although in *inter partum* cases it may be necessary to lay open the tumor in order to effect delivery, it is wiser to avoid this when possible until the bleeding vessels have become effectively plugged by thrombosis. In opening the tumor, surgical asepsis, with pressure and drainage assured by the use of iodoform gauze, constitute the approved method of treatment.—REP.]

THE FUNIC SOUFFLE AND THE UTERINE BRUIT.

ETTINGER, in his inaugural dissertation,⁶ records his observations on these points in Breisky's clinic. He accurately observed twelve instances of the funic souffle, and concluded that in most cases the murmur originated in the cord itself from compression of the funic vessels, either by coiling of the cord, by knotting, or when it was unduly short. He believes that the origin of the murmur can be found only exceptionally in the fetal heart, and therefore considers the name funic souffle a proper one.

He examined for the uterine bruit in 100 consecutive cases, and found it in 88 instances: — 63 times on the left, 12 times on the right, 10 times on both sides and 3 times anywhere he pleased on the abdomen. The reason for the most frequent left-sided seat of the bruit lies in the physiological right obliquity and right lateral torsion of the uterus. In 60 cases Ettinger heard the bruit *post partum*: the bruit is heard *post partum* most frequently in multiparae.

INVERSION OF THE UTERUS, FOLLOWING TRACTION ON THE FUNIS.

CLEVELAND⁷ (New York) has reported to the New York Obstetrical Society the following case, which carries its lesson with it. Expulsion of the child in two or three pains, before the medical attendant arrived, — precipitate labor. Gentle traction on the cord, combined with gentle massage of the uterus, pending which the right cornu uteri was felt to cave in, and speedily the uterus, with placenta firmly attached, was completely inverted. The whole mass was pushed back into the vagina, while the hemorrhage was profuse and pain extreme. After some effort the uterus was finally replaced, while the patient was

² Annales de Gynécologie, 1879, p. 321.

³ Arch. de Toxicologie, April, 1880: Centralblatt f. Gyn., 1880, I.

⁴ Nederl. Tijdschr. voor Geneeskunde, 1880, No. 14; Centralbl. f. Gyn., 1880, No. 5.

⁵ Zürich, 1888: Centralblatt f. Gyn., 1889, 48.

⁶ American Journal of Obstetrics, January, 1890.

nearly in a state of syncope. Copious intra-uterine douches of hot water were then employed. Until the moment of using the hot water the uterus was perfectly inert and refused to contract in the least. A dose of ergot had previously been given. After hot water had been injected for a few moments, the uterus began to respond; and after two gallons had been used tonic contraction took place, the bleeding ceased, and the woman recovered. Dr. Cleveland believed that the inversion was due to his traction on the cord, although he used no greater force than he thought justifiable. In this case, however, when the uterus was inert and the placenta adherent to the fundus, he thought the slight traction employed was sufficient to cause inversion. He did not think that the pressure exerted on the fundus was sufficient to have any influence in causing the inversion in this case.

In the discussion which followed Dr. Grandin queried whether the main etiological cause of the inversion was not paralysis of the uterus following a precipitate labor, and whether in that case traction on the cord would not have caused inversion whether the placenta was attached to the fundus or to the side: and he further stated that expression of the placenta is not called for until it is loosened from its seat, which loosening only occurs when the uterus regains tone and contracts.

[Although it is perhaps unnecessary to comment on this case, the reporter cannot refrain from ranging himself with Grandin in his views on the management of the third stage of labor. There could be no better argument than the case reported against ever making traction on the cord. It can never be known that the placenta is not adherent, until after the normal contractions of the uterus, supplemented perhaps by artificial compression, having failed to extrude the afterbirth, the hand is passed into the uterus and the actual condition ascertained. There being no hemorrhage, no haste should be employed in delivering the placentas; but attention should be directed towards awakening uterine contractions, either by the gentle friction of the fundus with the hand "cupped" over it, or if necessary with ice. After contractions are excited, the uterus may expel its contents spontaneously. If it does not after half-a-dozen pains, Credé's method of expression employed *during a contraction* will surely extrude the placenta, if it is non-adherent; and if the placenta is adherent traction on the cord will most surely not deliver it. If, therefore, traction on the cord is either dangerous or ineffectual when the placenta is adherent, and unnecessary (besides being unscientific) when the placenta is detached, why should it ever be employed?]

Reports of Societies.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

GEORGE H. MONKS, M.D., SECRETARY.

REGULAR Meeting, Wednesday evening, April 2, 1890, DR. E. H. BRADFORD in the chair.

DR. G. W. ALLEN presented a communication on SOME POINTS IN THE TREATMENT OF GONORRHEA.¹

DR. A. T. CABOT said: I have been very much interested in the able presentation of this subject by Dr.

¹ See page 121 of the Journal.

Allen, and in noticing his extremely thorough treatment of his cases. It seems to me that one great advantage he has is in his thorough applications; he is sure that his medicines reach the spot; and in a great deal of the routine practice one is not. The injections formerly given to patients to be syringed into their own urethra were frequently, no doubt, useless, from not reaching the seat of the disease.

The use of nitrate of silver in most cases of chronic gonorrhœa I am interested in. It is the treatment I have been carrying out. I came to it gradually, and am so well pleased with it that I have used it in almost all of these cases, and with usually very good results. I have made applications through the endoscope, and also somewhat by injections, by using a syringe such as Uitzmann uses for the prostate. A one per cent. solution is perfectly free from any harm when injected in this way, and in a great many of the rather chronic gleet is attended with first-rate results. This method saves the urethra from the contact of the endoscope, which is more irritating than that of the urethral syringe, and is in some cases preferable on that account. In the granular condition of the mucous membrane I think the treatment through the endoscope is the true one.

DR. H. W. CUSHING: How far does tenderness to instruments correspond to diseased areas as demonstrated by the endoscope?

DR. ALLEN: I don't think you can depend on that. I think the most sensitive part of the anterior urethra, as a rule, is the floor of the fossa navicularis, and perhaps one-half inch or so back of it, but that is generally the least inflamed part, as you look through the endoscope. In a very large proportion of cases the inflammation is most intense about the peno-scrotal angle, and at the tip of the bulb it is also generally somewhat inflamed.

DR. CUSHING: That has been spoken of as rather a practical point with reference to treatment without the endoscope as designating the point at which local application should be made. If any such indication could be found, as far as routine treatment of cases goes it would save considerable time. Of course the rational method and the best method of studying the changes in the mucous membrane of the urethra is through the endoscope.

DR. ALLEN: Klotz says very decisively that tenderness is no indication of the true state of the mucous membrane.

DR. J. HOMANS, 2ND: I understood Dr. Allen to say he used a ten per cent. solution of nitrate of silver through the endoscope on a plug of cotton?

DR. ALLEN: Yes.

DR. HOMANS: When you use a solution and inject it you seldom go higher than five per cent?

DR. ALLEN: I think you would not go so high as that. When used through the endoscope the solution is applied to the very spot inflamed, and a very small quantity is used.

DR. HOMANS: My idea was that the danger of using a strong injection has been considered to be not only on account of the chance of inflaming healthy mucous membrane, but also a possibility that the treatment might produce stricture; and I merely ask for information. It would be my own feeling if I had a spot of chronically inflamed mucous membrane inside of my urethra, that I should not want a ten per cent. solution of nitrate of silver to go anywhere near it.

DR. ALLEN: You begin with a one per cent. solution and go up gradually, and as soon as you begin to see much reaction from it you stop.

DR. HOMANS: Have you had any cases under observation for over a year in which you used a ten per cent. solution?

DR. ALLEN: I have, but I have not made accurate measurements of the urethral calibre. I should not have the least fear of stricture from the solution.

DR. OTIS: What is the average amount of time required for such treatment through the endoscope?

DR. ALLEN: In an ordinary case of simple urethral inflammation, where there are no complications, no stricture formation or glandular implication, I should think, on the average, about a dozen sittings would relieve the patient of his symptoms and bring the mucous membrane pretty near to the normal condition, so that it would look very different from when you first examined it. Instead of being of a deep livid red it becomes rosy red, and then rosy pink. Klotz says the normal color is pale pink. Grünfeld says it is light rosy red.

DR. STONE said he had seen a small syringe with lanolin as a menstruum used. The exact spot for application was determined by the endoscope, and then this lanolin syringe was used as Dr. Cabot uses the Ultzmann syringe, and deposited the lanolin directly over the spot, and in that way avoided the irritation of passing the endoscope each time. The lanolin seemed to hold to the urethra and to stay much better than cocoa-butter pencils, and better than simple watery solutions.

DR. IRWIN: Does Dr. Allen consider the form of treatment he has been using for gleet preferable to the regular passage of sounds? Is it any easier for the patient? Of course I know that the use of sounds is easier for the operator. I have found steel sounds very efficacious and generally successful in the course of six weeks to two months. I think it requires a good deal of skill and considerable practice to use an endoscope, and ordinarily I should think it would be easier to use the steel sound.

DR. ALLEN: The steel sound is much easier to use, and I think it is very valuable. I have used it in connection with the endoscope. From the steel sound alone I have not had such brilliant results. I think there is a certain proportion of cases that will not get well with the steel sound. Of course there are occasional cases that will not get well with the endoscope. There are some cases of gleet that seem to be past hope.

DR. IRWIN: Have you had any experience in using the endoscope, or rather urethrascope, where a column of air is used to distend the urethra?

DR. ALLEN: I have never used it, and have never seen it used.

DR. F. S. WATSON: I wish to make a few remarks on the subject of Dr. Allen's paper, as it is one that interests me much; and I will limit them to that part of his communication which relates to chronic urethritis in the male and its treatment. I agree with the reader, that for chronic urethritis uncomplicated by stricture, the treatment by local applications through the endoscopic tubes is that which is the most certain and beneficial; and that of all the agents for this purpose nitrate of silver is that which (more especially where patches of granulation tissue occupy the urethral

surface) yields the best results; and I also concur in his opinion that in the obstinate cases the best results are gained by gradually increasing the strength of the solution up to 10 per cent. The solutions are best applied by moistening a small quantity of absorbent cotton with them, after it has been wound on a wire for the purpose of holding it firmly. I prefer the ordinary endoscopic metal tubes of Klotz, or similar ones (with lamplight or sunlight for illumination), to the electric light endoscope of Leiter-Nitze, because the former lights show the more natural colors in the urethra. I have never seen any deleterious results follow the use of nitrate of silver in the manner described that were referable to its use.

One of the most difficult matters of judgment in connection with the local treatment of chronic urethritis is that of determining the length of time and frequency of sittings to be employed in any case. I have frequently seen cases where I am sure the disease had been perpetuated by the persistence of a regular routine treatment of passing sounds twice or more weekly, and of daily astringent injections, and perhaps in addition, of endoscopic applications. That such was the case, was shown by the fact that in many instances these patients would wholly recover, on substituting a mild injection of permanganate of potash, omitting all else, or by omitting all treatment and sending them to the country or into camp.

It is well to bear this fact in mind, and to give the patient (in whose condition improvement has ceased to occur under persistent local treatment after three or four months perhaps) a chance away from his doctor, in good hygienic surroundings. With regard to the frequency of local treatment, I think the best results are seen when it is repeated twice weekly; not oftener, and frequently less often. It is of advantage to pass a full-sized sound as far as the membranous urethra immediately before making the application of the solution through the endoscope. Sometimes the sound should be lubricated with glycerine in preference to fatty substances, as the latter coat the urethra and interfere with the effects of the solution. The chief benefit derived from this procedure arises, I think, from the opening up of the folds of the urethra and exposing also the mouths of the urethral follicles to the action of the forthcoming drug.

Dr. Allen's paper covers so thoroughly the ground of the subject that I am able to do little more than to substantiate his statements, so far as my own experience in the same line may do so.

DR. ALLEN: In regard to the use of the stronger solutions through the endoscope, as Dr. Watson says, you come to it gradually. When I reported a series of cases three years ago, a three per cent. solution was the strongest I had used, but I found afterward I could gradually increase the strength.

DR. OTIS K. NEWELL: showed a series of stereopticon slides illustrating the development of

EVACUATORS FOR LITHOLAPAXY,

and then exhibited a model of what he considered to be the best form of evacuator thus far constructed. This was an instrument in which the evacuating canal is uncomplicated by trap, the evacuator itself, with its receiver, acting as one, and for which the principle of short urethral measurements makes the tubes anywhere from four inches (in children) to six or eight inches in length.

DR. A. T. CABOT said: This subject of evacuators is a large one, and one that we cannot, in the time left us, discuss at full length, and I, therefore, propose to speak only of one or two points; and I wish especially to consider the particular point in which Dr. Newell makes his evacuating tubes differ from those in use by other operators, namely, that of length. Before speaking theoretically upon the subject, I wish to state as an actual experience that since my attention has been called to the question of short tubes, I have had eight or nine cases in which the ordinary straight tube of Dr. Bigelow's was entirely swallowed in the urethra before the end of the tube reached the floor of the bladder where it ought to rest. If I had been at such a case without my tubes of full length, I should have been unable to finish the operation. It is very important in manipulations inside of the bladder, in order that you may have delicacy of perception as to what you are about, to have an instrument which is not firmly held in the soft parts outside of the bladder. If you take too short a tube, it may be impossible to tell whether the point of the tube has reached the floor of the bladder, and how hard it is pressing upon it, owing to the resistance of the soft parts which the tube pucks in front of it.

The ideal position is to have the point of the tube gently pressing the floor of the bladder, depressing it, as shown in the casts by Dr. Bigelow, in order that there may be a dependent point into which the fragments fall; and it seems important not to have a tube so short that the pressure against the parts outside of the bladder prevents properly estimating the pressure against parts inside of the bladder. If I am right in this, the ideal condition would be to have sets of tubes from which we might select a particular length for each case, a length sufficient to just reach the floor of the bladder at the time that the soft parts in front are beginning to be pressed upon. That would be a very cumbersome set of instruments to carry about to operations, and, therefore, as a matter of convenience, I think most surgeons carry one length, and select a length which is competent for all cases. The length of Dr. Bigelow's evacuating tube is materially added to by the introduction of two stop-cocks. These I think more important as adding to the comfort of the operator than of disadvantage as lengthening the operation. In the operation of litholapaxy, lasting an hour, I suppose the evacuator is not used one-quarter of an hour. The greater part of the time is occupied by the lithotrite. Perhaps by shortening the tube we could diminish it a few minutes. This would be a certain advantage, and yet in an operation of one hour the addition of five minutes is of comparatively slight importance as compared with any discomfort to the operator.

Another difficulty with the short tube is that it brings the evacuator down in very uncomfortable proximity to the patient's thighs. Any slight movement of the patient might disturb the operation; and in Dr. Newell's last evacuator, it seems to me that when the penis is pressed down and the stop-cock brought very close to the pubes, the receiver in which you want to see the fragments falling will be down deep between the legs where it would be very difficult to manipulate the instrument or to see the fragments fall.

I think Dr. Newell's point that the curved tube is often of advantage was well taken. In some cases in which the straight tube fails to bring fragments, upon

introducing the curved one, it immediately gets them. I think that it is a common plan to elevate the pelvis. It is one I have used a long time. I think Dr. Newell will remember a case on which I operated in Providence, with his assistance, in which, when the stone was not easy to seize, I elevated the pelvis with a pillow and reached the stone with perfect ease.

DR. M. H. RICHARDSON: I have not crushed many stones, but I agree with Dr. Cabot that very little time is necessary in washing out fragments. The greater part is required for crushing the stone.

It always seemed to me that Dr. Bigelow's instrument was a very perfect one. The largest stone I have crushed weighed about one-quarter of a pound. The operation of crushing and removing the fragments was less than one hour, and the greater part was necessary in crushing the fragments.

I have had no experience in introducing these short tubes, but it always seemed to me that the long straight tube or curved tube was more easily introduced when you made the urethra tense by pulling on the penis.

DR. F. S. WATSON: I see Dr. Newell's new evacuator for the first time to-night, and so do not feel competent to judge of its merits. The only objection to its form which occurred to me, is that which Dr. Cabot has already pointed out, namely, that the angle of the tube to the bulb and bottle below it is so acute that it seems as if the bulb would lie inconveniently between the patient's thighs.

Of Dr. Newell's original evacuator, and of the rise of the short tubes in connection with it, I have already spoken on former occasions, and can only repeat in brief what I said then. The advantages I have found in it are its lightness and the form of its stop-cocks. I cannot follow Dr. Newell wholly as to the desirability of his short tubes, but have adopted a length between the long ones formerly in use and his short ones, which, for cases in which there is no lengthening of the passage into the bladder from prostatic hypertrophy or other cause (which does require the full ordinary length of tube), I think is of advantage in facilitating the evacuation of fragments.

I do not think the form that Dr. Newell has given to the distal end of his tubes is a good one, as it seems to me likely to do damage to the prostatic urethra, especially in cases where a median enlargement of that organ makes it difficult to enter the bladder; and injury to that portion of the canal is one of the most dangerous accidents, so far as I have observed, that can happen in the operation of lithotomy.

With regard to the relative length of time that should be occupied by crushing and evacuating, I agree with Drs. Richardson and Cabot, and consider that the crushing is much the more difficult and delicate step of the two.

DR. NEWELL: I think the whole ground with reference to this matter is covered by the fact that a thing is sure to live on its merits.

I am surprised that Dr. Cabot thinks that the pumping is the shortest part of the operation. I should not say that at all. The greater part of the time is consumed in evacuating. In my own cases, which number two, I found that the tube was sufficiently long, and that the tactile sense is good, if you do not have too large a tube. I think it is a great mistake to use too tight instruments. It is one of Uitzmann's points that litholapaxy should be a bloodless operation.

I remember that Dr. Cabot elevated the pelvis of

the patient whom he has referred to, but I think it is not the rule to do so here. Ultzmann insists on this.

I think that the publication of Dr. Otis's evacuator put in a false light some of the points in Dr. Bigelow's evacuator, and that some claims were made which had no ground.

DR. R. W. LOVETT read a paper on

HIGH TEMPERATURE IN CHRONIC JOINT DISEASE.²

DR. RICHARDSON: In the cases of hip disease, where these high temperatures were observed in the first year or so, what symptoms of hip disease were present?

DR. LOVETT: A certain amount of limitation of motion in the affected joint, with atrophy and sometimes shortening. There was enough to establish the diagnosis, and the cases have been watched since.

DR. C. L. SCUDDER: It seems to me these observations are not only interesting, as helping to fill out the clinical picture of hip disease, but are of diagnostic value; for only recently, at Dr. Lovett's suggestion, I took the temperature of a girl with questionable lateral curvature of the spine, and the symptoms which this child presented were slight changes in the antero-posterior curve of the spine, without any marked rotation. The spine was fairly flexible, but the antero-posterior curves were altered, and it was a question whether any caries was present or not, or whether there was the beginning of a lateral curvature. The temperature was taken on several successive days in the afternoon, and each time was found to be some six or eight tenths of a degree above 99°. The probable diagnosis of spinal caries was made. These observations may prove of some value in the diagnosis between the early stage of spinal caries and that of lateral curvature.

DR. BRADFORD: Has the same elevation of temperature been observed in tubercular affections elsewhere, in the early stage—in tubercular testis, for instance?

DR. LOVETT: I cannot say.

DR. BRADFORD: It seems to me that Dr. Lovett's observations are of value in tuberculous diseases of other parts of the body.

DR. WATSON: I believe the data in tuberculosis of the genito-urinary tract are wanting.

DR. POST: Has Dr. Lovett made observations on supposed hysterical joints?

DR. LOVETT: I have had no opportunity to do so. Dr. Shaffer, in his book on "Neuromimetic Affections," speaks of elevations of temperature as not uncommon in hysterical knees.



AMERICAN OPHTHALMOLOGICAL SOCIETY.

TWENTY-SIXTH Annual Meeting, held at Hotel Kaaterskill, Catskill Mountains, July 16 and 17, 1890.

WEDNESDAY MORNING.

The Society was called to order by the President, DR. HASKET DERRY, of Boston. The first paper was that of DR. W. F. MORRIS, of Philadelphia, reporting two cases of

BRAIN TUMOR, WITH INTERESTING EYE-SYMPOTOMS.

CASE I. Mrs. X., aged thirty-two, a strong and vigorous woman, was seen in June, 1889. During

² See page 373 of the last volume of the Journal.

the last few months there had been failing eyesight. No double vision. Movements of lid and ocular muscles good. Right pupil responded promptly to light. The left was slower in its response, and was larger than the right. The ophthalmoscope showed a low grade of hypermetropia and hypermetropic astigmatism. Discs normal. The field of vision in left eye was defective in upper outer quadrant. In the right eye the defect was in the upper and inner quadrant, but not so marked.

April 4th she had a slight convulsion. She began to have pain referred to the right side of the head and eye. May 6th, right optic disc beginning to be hazy, and slightly prominent. Left disc also swollen. Both pupils sluggish. Twitching of muscles of shoulder. Increased headache. Nausea without vomiting. Diplopia was first noted May 18th. She was seen by Drs. Wm. Osler and S. Weir Mitchell in consultation, and diagnosis of a tumor of the base, probably near the optic thalamus, was made. June 3d there was a convolution, followed by nystagmus. Death occurred July 5th. The diagnosis was confirmed by the autopsy. Microscopical examination showed the characteristic appearance of glioma.

CASE II. Mrs. Y. was seen in January, 1889. She had lost the sight of one eye, and was rapidly losing that of the other. A year previously she was seized with deafness in the right ear. Six months later she had an attack of severe pain in the right trigeminus. Later there was double vision and gradual failure of sight. The right eye was slightly prominent, the pupil semi-dilated and unresponsive to light. There was paralysis of the external rectus muscle. There was in the right eye a dense grayish haze of the retina, most marked about the nerve. The disc was slightly in advance of the retinal level. In the left eye vision was diminished, and there was a semi-transparent haze in front of the disc. There was loss of smell on the right side of the nose, and the skin and mucous membrane on this side was less sensitive than on the other. There was absolute deafness on the right side. Six days after this observation vision in the left eye was entirely lost. The patient then returned to her home. There was increased suffering from headache, and intense neuralgia in the superior and inferior dental nerves, especially on the right side. A few days before death the right eye became so prominent that the lids could not close over it. June 10th the patient became comatose and died.

The autopsy showed a large firm tumor occupying the sella turcica, extending on each side along the wings of the sphenoid especially on the right side, and also toward the base of the skull. The growth was a carcinoma, and involved the second, third, fourth, fifth, sixth, seventh and eighth nerves on the right side, and the second and third on the left side.

DR. CHARLES A. OLIVER, of Philadelphia, gave the

HISTORY OF A CASE OF INTRACRANIAL NEOPLASM, WITH LOCALIZING EYE-SYMPOTOMS; POSITION OF TUMOR VERIFIED AT AUTOPSY.

The patient, a male adult, presented general symptoms of right hemiplegia and right hemianesthesia. When first seen by the writer there was right lateral homonymous hemianopia, the left field of vision being the smaller, with well-marked Wernicke hemiopic pupillary reaction sign. In the remaining field there

were floating scotomata for green, more pronounced on the left side, with slight subnormal color perception, also more marked in the left field. In the right fundus there was a broad, superficial blotch-like hemorrhage extending over the lower outer quadrant of the disc, with enlargement and tortuosity of both the retinal veins and the arteries of the same side.

This grouping of symptoms led to a diagnosis of a gross intracranial lesion near or in the left optic thalamus. Autopsy four weeks later showed a gliosarcoma involving the external portion of the left optic thalamus as well as the corpus striatum almost as far as its anterior third. The left optic tract as far forward as the optic chiasm was markedly flattened and pressed upon.

TRANSIENT AMBLYOPIA WITH BI-TEMPORAL HEMI-ANOPSIAS IN A CASE OF MALARIAL CACHEXIA,

by DR. G. C. HARLAN, of Philadelphia.

A sailor, aged twenty-two, was admitted to the hospital September 2, 1889, with severe chills and fever. During the following month he exhibited varied nervous symptoms, headache, mania, hallucinations, etc. Quinine was given without any effect, with the exception of preventing a recurrence of the chills.

November 14th there was diminution of sight, and the patient could see only in front. Vision existed only in the nasal fields. November 18th the patient was entirely blind. The next day there was some return of vision. Microscopic examination of the eye showed pigmented corpuscles in great number. Quinine, twenty-four grains daily, caused rapid improvement. Vision rapidly returned, and on the 24th was normal. By the 30th the pigmented corpuscles had disappeared. There was no return of the symptoms.

THE EXTRACTION OF DISLOCATED LENSES FROM THE EYE, WHETHER TRANSPARENT OR CATARACTOUS,

by DR. C. S. BULL, of New York.

The author maintained that in the majority of cases it was possible to extract a lens dislocated into the vitreous by external manipulation, without the introduction of any instrument into the eye. The manipulation may be described as follows: The lids are held open by a wire speculum, and the section made upward with a narrow knife. The speculum is then removed, and the upper lid lifted away from the ball with a wire elevator. Pressure is then made against the lower part of the eyeball, the pressure being made directly backward, the lens will be seen to rise and appear at the pupil. Sometimes it comes through the pupil, but occasionally the use of a blunt hook or wire spoon becomes necessary. If continued pressure fail to push the lens through the pupil or occasions prolapse of the vitreous, some other method must be substituted. For a number of years he had not found it necessary to introduce a spoon into the vitreous chamber to remove a dislocated lens floating in the vitreous.

Dr. C. S. Bull presented

SOME FURTHER CONSIDERATIONS ON THE "SIMPLE OPERATION" FOR THE EXTRACTION OF CATARACT.

The paper was based upon some one hundred and sixty cases of cataract extraction without iridectomy,

the method of operation and the complications liable to arise were discussed in detail. The advantages claimed were: (1) If successful without complication, the natural appearance of the eye is preserved; (2) the acuteness of vision is greater than with the older operation; (3) eccentric vision is decidedly better; (4) small particles of the capsule are less likely to be incarcerated in the wound; (5) it is a shorter operation in point of time; (6) as there is no iridectomy, there is little or no hemorrhage. The disadvantages are that the technique is more difficult than that of the old operation; the corneal section must be larger; the section must be performed rapidly, and there is danger of the iris falling upon the knife; the cleansing of the pupillary space and posterior chamber is more difficult; posterior synechia and incarceration and prolapse of iris is more common. The operation is not applicable to all cases.

DR. HASKET DERBY, of Boston, reported

EIGHT CASES OF DOUBLE ZONULAR CATARACT AMONG TEN MEMBERS OF THE SAME FAMILY.

REMOVAL OF A LARGE EXOSTOSIS OF THE ORBIT WITH PRESERVATION OF THE EYE,

by DR. T. R. POOLEY, New York.

The patient was an Irish girl, twenty-three years of age, who came under observation August 21, 1888. Two years before she had noticed protrusion of the right eye ball. At the upper inner angle of the orbit a hard tumor could be felt. A diagnosis of orbital exostosis was made and confirmed by exploring incision. The patient then disappeared until February 6, 1890, when she returned with pronounced optic neuritis, V.^{—20}. Next day there was great pain in and about the orbit, with rise of temperature and mild delirium. Exophthalmus was increased, and immediate operation urged. The tumor was then removed by the use of the chisel, the mallet not being required. The bony growth measured 39 × 28 × 30 millimetres, and weighed 26 grammes. The patient was discharged at end of three weeks, and vision gradually increased to ²⁰, and all evidence of neuritis disappeared.

OPERATION FOR ECTROPION OF THE LOWER LID BY THE SLIDING FLAP METHOD,

by DR. T. R. POOLEY, New York.

The object of the communication was to show the adaptability of this operation for the relief of cicatrical contraction. The patient was a woman suffering with ectropion resulting from cicatrical contraction following the removal of epithelioma of the lower lid. The conjunctiva to the cul-de-sac was exposed. A flap was slid from the temporal region to fill the gap in the lower lid. The patient was discharged two weeks later with perfect result.

CASE OF A FOREIGN BODY REMAINING IN THE EYE ABOUT TWENTY YEARS, FOLLOWED BY ABSCESS IN THE SCLERAL WALL, OPENED AND RECOVERY,

by DR. B. L. MILLIKIN, Cleveland, O.

On March 18, 1871, E. M. O., ten years of age, was struck in the right eye with a bit of musket cap, which he supposed at the time did not enter the eye. Following the injury, the eye was greatly inflamed, confining him to his room nearly three months. The eye gave no further trouble, and vision was fair, until 1883, when he had an attack of severe inflammation in it. The eye again improved, with fair vision, and

remained well until 1887, when it again became red and painful, with failure of sight.

The patient was seen for the first time February 28, 1888. Three or four days before, another attack of inflammation had occurred. The cornea showed a linear opacity. Behind this was a slit in the iris. The ophthalmoscope showed an oblique track directly through the body of the lens. In the anterior portion of the vitreous was plainly seen a grayish-white body projecting into the vitreous, this had the appearance of an encysted body. Vision in right eye = $\frac{1}{2}$, in left eye $\frac{1}{3}$. There was tenderness on pressure over the position of the body.

September, 1889, he had another severe inflammatory attack, but was not seen until November 27th. Under active treatment the inflammation subsided.

In December, an enlargement appeared over the position of the foreign body, and rapidly increased in size. January 14th, the eye-ball was free from any general inflammation, but the projection over the foreign body had increased in size. Under cocaine, a needle was passed through the swelling and came in contact with a hard body. A triangular portion of the conjunctiva was then dissected off and an incision made into the swelling. Three or four drops of pus escaped. With a spoon a number of hard black particles were scraped out. As much as possible of the interior of the sac was removed with the spoon, forceps and scissors. The sclera was at least one centimetre thick at this point. The eye recovered without a bad symptom. The body previously seen in the vitreous chamber had disappeared. By January 22d, V. = $\frac{1}{2}$. Since the operation there has been no return of the inflammatory attacks.

FOREIGN BODY IN THE ORBIT,

by DR. W. F. NORRIS, Philadelphia.

CASE I. T. R. came under observation on account of pain in the left forehead and orbit. The eye-ball of that side was wanting. The orbit was filled with a mass sensitive to the touch, and at the bottom of the cavity was an opening discharging pus. The probe detected a hard body. He had been struck eighteen months before by an exploding railroad torpedo, shattering the left eye, which was enucleated by a surgeon, but the orbit had never healed. The patient was etherized, and a large piece of metal, which had formed the shell of the torpedo, was removed by forceps.

CASE II. P. B., forty-seven years of age, was struck in the eye by a piece of nail, which flew from a piece of wood he was sawing with a circular saw. Some days after the accident he came to the hospital. There was an opening through the lower lid and the sclerotic conjunctiva. A minute black point was seen projecting from the eye, which was found to be metallic, and on removal it proved to be a piece of nail three-quarters of an inch in length.

COMPLETE PARALYSIS OF THE LATERAL MOVEMENTS OF BOTH EYES, ABILITY TO CONVERGE REMAINING INTACT,

by DR. B. L. MILLIKEN, Cleveland, O.

M. M. L., thirty-three years of age, Irish laborer, presented himself March 21, 1890. Twelve years ago first noticed that he saw things double, but this passed off in a short time. This occurred occasionally since then. For the past few weeks had been much annoyed by the double images. The patient has been addicted

to the excessive use of alcohol, but denies syphilis. In each eye V. = $\frac{1}{2}$. When winking the left eye does not close as rapidly as the right. The eyes follow an object carried up and down in front of them, but in no position of the field can the eyes be seen to move laterally. When the eyes fix an object and this is carried towards the eyes, they are seen to converge so that the object may be carried to within seven or eight inches of the eyes. Pupillary reaction is normal. Each optic disc was small, round with narrow choroidal ring, slightly deepened pearly color and slight degree of H. There were no nervous symptoms and no history of previous illness. Ten grains of iodide of potassium three times daily was ordered, but only a few doses taken. By April 4th, the lateral movement of the right eye seemed normal, and that of the left eye was improving. The patient then passed from observation.

THE WINKING TEST,

by DR. CHARLES E. RIDER, of Rochester.

The object of the paper was to point out the relation that exists between the ability to close one eye independently of the other and the acuteness of vision. The attention of the writer was directed to this relation by the fact which he had frequently noted, that such persons as surveyors, sportsmen and others who use one eye for sighting objects, as a rule, close the poorer eye. Noting this, he was led to make a study of a series of cases numbering three hundred. The results obtained were as follows; the term isopia was suggested to indicate those having equal vision in the two eyes, and anisopia to indicate those having unequal vision:

		Male.	Female.
Cannot wink.		1	30
Isopia	{ Wink equal	30	33
	{ Wink unequal	1	27
Anisopia	{ Wink equal	17	12
	{ Better eye	4	12
	{ Poorer eye	64	66
Totals,		120	180

Of Anisopic males who winkle unequally, 99% winkle the poorer eye; and of females, 84% winkle the poorer eye.

The practical applications of this test were referred to, and its availability in certain medico-legal cases mentioned.

NEW TESTS FOR BINOCULAR VISION,

by DR. J. A. LIPPINCOTT, of Pittsburgh.

The tests suggested are the outcome of some observations and experiments, the results of which were published in *Knapp's Archives* for March, 1889, under the title of "Binocular Metamorphopsia Produced by Correcting Glasses." In practice, a convex cylindrical lens of 2 or 2.5 diopters, axis vertical, is held before one eye, and the patient is asked which side of a card ten or twelve inches square, held at the reading distance, appears the higher. The question is repeated with the axis of the cylinder horizontal. Then a concave cylinder is substituted for the convex cylinder, etc. The principal advantages which may be claimed for these tests, which are in fact stereoscopic tests without a stereoscope, are their variety and simplicity, and, moreover, the patient can be more closely watched when under observation than if his eyes are hid behind the eye-pieces of the stereoscope.

CAN HYPERMETROPIA BE HEALTHFULLY OUTGROWN?
by DR. B. ALEXANDER RANDALL.

The writer claimed that the investigations showing

the predominance of hypermetropia and the rarity of emmetropia had not been properly accepted. The assumption of the prevalence of emmetropia had little basis, and the claim that the hypermetropia which preponderates in infancy is really less in childhood, and has passed away at maturity, is in conflict with the best attested facts. Even the decrease of the grade of defect from infancy onward is slight if indeed actual. He cited the results of all the investigations, giving data as to the relation of age to refraction. These showed a very slight decrease in the grade of refraction (hypermetropia), a decrease which is really surprisingly small in view of the large amount of pathological tendency toward myopia which has been observed. The author therefore held that all tendency toward emmetropia and myopia was pathological, not physiological.

TREATMENT OF MUSCULAR ASTHENOPIA AND ITS RESULTS,

by DR. HENRY D. NOYES, of New York.

The paper was a statistical one, from which certain deductions were drawn. It was based upon a study of one hundred consecutive cases of muscular asthenopia in which prisms were employed. The cases had all been under observation sufficiently long to render the results worthy of study. Coexisting errors of refraction were found in certain cases, but the influence of such errors in the causation of the symptoms was excluded. Among the cases reported there were sixty males and forty females. The occupation of three-fourths of the cases was such as to demand persistent eye-strain. The majority of the patients were in good health, — less than forty per cent. being in a feeble condition. The symptoms noted were ocular and general. Among the former were pain, blurring and unsteadiness of print, inability to look at moving objects, inability to look fixedly at any object, difficulty in seeing the nose, protophobia, unsteadiness of the globe, spasm of the accommodation and conjunctivitis. Among the general symptoms found were headache (which often presented the singular feature of occurring on first waking and increasing during the day), vertigo, nausea, insomnia, melancholia, pain in remote parts, tenderness over the orbital nerve, and nasal catarrh.

A study of refraction showed emmetropia in forty-seven, hypermetropia in twenty-five, myopia in none, astigmatism in twenty-seven, hypermetropic astigmatism in twenty-one, myopic astigmatism in four, mixed astigmatism in two, and antimetropia in one.

The muscles affected were noted as follows: Weakness of the externi, ninety-two; weakness of the interni, four; general weakness of all the muscles, one. In five cases there was in addition a vertical error. It is to be observed that the proportion of cases of weakness of the externi is not so great as would seem from this report — the proportion is probably about 75%.

In the treatment of these cases attention was first paid to the indications presented by the condition of the general health. Many patients had been subjected to general and local treatment without relief. In some cases the use of prisms was at first tentative. In more than half the cases headache was a prominent symptom. It was in most instances relieved by the use of prisms. In some it was lessened, and in a few it was not benefited at all. In the larger number of cases prisms were worn constantly. The final results

were, complete relief in seventy-four cases, moderate relief in six, no relief in thirteen, temporary relief in six.

The report of the Committee on Blindness was then called for and read by the chairman, DR. LUCIEN HOWE, of Buffalo.

The study made by the committee showed that about 20% of the cases of blindness were due to ophthalmia neonatorum and purulent ophthalmia, and suggested certain means of prevention in the way of legal enactments.

(To be continued.)

Recent Literature.

Archivo della Scuola d'Anatomia Patologica diretto dal Prof. Giorgio Pellizzari. Volume Secondo. Firenze: Coi tipi dei Successori le Monnier. 1883.

This is a collection of articles published under the auspices of the School of Pathological Anatomy in Florence.

The first is by Dr. G. Banta, on hypertrophy of the breast. A case operated upon at the hospital furnishing the material for his studies. To his own are added an account of the published cases, and the distinction between true and false hypertrophy is insisted upon. Among the former are to be classed only those in which an increase of all the normal structures is found. In this class is placed his case, which occurred in a girl of thirteen years, whose breasts weighed, after removal, 7,200 grammes, and 3,250 grammes respectively. The illustration shows her appearance as well as the histological structure. Some importance seems to be attached to a proliferation of the epithelium lining the alveoli. But as far as can be judged from the drawing, this may be an error of observation, and the apparent thickening due to the way in which the section passed through the walls of the alveoli.

Drs. Mallochi and Pellizzari contribute a study on leprosy, illustrated by a good colored plate of the two forms, granular and bacillary, of the micro-organisms found by them in this disease.

A second article, by Dr. Banta, is devoted to splenic anemia. This he defines as "a progressive idiopathic anemia, accompanied by a pure idiopathic hypertrophy of the spleen, associated at times with that of the liver, and without leucæmia." The structural changes were found to be an increase of the stroma, chiefly confined to the follicles. The different forms of anæmia are discussed, as is their treatment, and a table is given of the cases in which resection of the spleen has been performed.

The last contribution is by Dr. Celso Pellizzari on rhinoscleroma, which has for its basis a case from the clinic in Florence. The differential diagnosis is taken up and the recorded cases given.

In his own case he had the opportunity for a careful microscopic investigation, which is illustrated by twenty figures, while a portrait of the patient gives a good idea of the external appearances of the disease.

The book is well gotten up, and, although the Italian language may be a bar for some, the figures can be easily understood, and illustrations may be rightly called the Volapuk of Science.

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THE POPULAR SCIENCE OF ECONOMIC
DIETETICS.

THERE is very little doubt but that the civilization of the future is to distinguish itself especially by a saving of the existing wastes of life. In past ages land, materials and labor have been so abundant that much of them all has been squandered; but in the older countries the crowding of population has enforced a thrift and economy to which we of the new world are as yet strangers, yet which we shall have to think more about. The farmer has been rapidly occupying the unused new lands of this continent; and the vast forests of Africa, hitherto lying waste, will doubtless, in the next century, be largely utilized. Desolated New England farms are being taken up and worked by thrifty Scandinavians. The great wastes of fuel in the existing methods of supplying heat and power will be remedied. A prominent political economist has not thought it beneath him to work out a cooking apparatus which should substitute cheap petroleum for coal, at an enormous saving of expense.

Food-wastes constitute a field in which reform is urgently needed; and it is a reform in which physicians have a peculiar interest. The slightest observation of the conditions of life among the poorer classes in our cities shows that great waste occurs in the purchase and utilization of food-products, through ignorance on the part of people who can least afford such wastes. In the houses of the well-to-do such losses are, of course, greater absolutely, if not proportionally to the whole sums expended. And how can we expect it to be otherwise? The best of our cooks are expected to study nothing but the presentation of agreeable and palatable meals; and the economics of the question, so far as intelligent knowledge is concerned, is usually outside the ken even of the mistress of the house. The latter may give general orders as to the purchases; but the good old fashion of marketing, while still retained in a few of our cities, is, for the most part, quite gone by, and too often the ordering of the food-products is patched up between the

cook and the butcher's and grocer's boys. The head of the family periodically comes down on the shopkeepers; but it is only for poor quality, over-charges or under-weights, and he never thinks of criticising the wisdom of the orders given, unless something for which he has a personal weakness has been left out.

Popular instruction of housewives, actual and prospective, not only in cooking but in the theory of food-products and in the practice of selecting such aliments as will represent the amount of the various proximate principles necessary to sustain life, while at the same time affording a variety agreeable to the palate, and involving only an expense suited to the pocket-book, will, we believe, be a necessary forerunner to that physiological millennium to which we all look forward.

The work of such men as Smith and Pavly, Pettenkofer and Voit, has laid the foundation of a science of dietetics on which other men are building a superstructure. What is needed now is a translation into a popular form of the result of such teachings. For the poor and the unlearned the instruction must be very simple and practical; and the establishment of diet-kitchens, in which it is demonstrated that nutritious and palatable products can be furnished at a low price, is a good beginning. Public bakeries, to which housekeepers can send their food to be cooked, as is done so much and so cheaply in European cities, is a fashion which might well be imitated here, though this is a matter belonging rather to the economic than the educative side of the dietetic problem.

In this connection we are glad to note that Mr. Henry Lomb, of Rochester, whose munificence has enabled the American Public Health Association to offer several prizes for essays on questions of public health, has been the means of calling forth, by a similar offer this year, a most valuable work on practical, sanitary and economic cooking, adapted to persons of moderate and small means. The author is Mrs. Mary Hinman Abel, who, we understand, has for some years been studying these problems in German laboratories, and whose work is indorsed most highly by the committee who made the award. It is stated that seventy papers were offered in competition for this prize, and that the committee were unanimous in awarding a first prize to Mrs. Abel, and in deciding that no other paper was deserving of a second prize. It is the aim of the American Public Health Association to disseminate this tract as widely as possible. It has been published in a cheap but attractive little volume, for which, we understand, the Association is prepared to arrange liberal terms.

NATIONAL MEASURES FOR THE PREVENTION OF FOOD ADULTERATION.

On another page of the JOURNAL we print a bill, which has recently been reported in Congress from the Committee on Agriculture and Forestry, for the prevention of food adulteration. In many of its provisions it resembles the bill which was introduced several years since and became the basis of similar legislation in

several States, notably in Massachusetts. Possibly the present bill is as strong a measure as could be carried through the present Congress, in which there is at least a very large minority who are strongly opposed to all food legislation whatever.

The element of weakness in the bill consists in the introduction, in the sixth section, of the words and phrases "knowingly" and "within the knowledge of the seller," which, so far as previous experience has shown, must seriously interfere with its successful operation.

Its general intent, however, is excellent, and defects can be remedied in the future.

MEDICAL NOTES.

—The death is announced of Dr. James H. Starr, who was Secretary of State under President Lamar of the Texas Republic. He was eighty-one years old.

—The catalogue of the New York Polyclinic shows an attendance, for the session of 1889-90, of 422. The following extract shows that the Faculty have resolved to exclude all but graduates of regular medical colleges from matriculating at this school: "Practitioners who are graduates of regular medical colleges, or who, having attended one or more courses of lectures at such college, have a legal permit to practise, will be admitted."

—The Park Commission of Philadelphia has decided that Edison's phonograph is a danger to public health, from the possible contagion to be transmitted by the indiscriminate use of the lobes on the rubber tubes which are affixed to the ear of the listener, and also in the liability of the instrument to cause deafness; and they have banished the instrument from the Fairmount Park.

—The trustees of the Newberry Library, Chicago, have received from the trustees of the Public Library the medical portion of the Public Library upon the conditions proposed by the public library board. These are that the collection, which was donated by the Chicago Medical Society, is to remain intact and be always open to the public. There is to be paid to the board \$1,000 to cover the cost of new medical books purchased and rebinding. These volumes will be added to the medical department of the Newberry Library and placed in charge of a special librarian.

—According to a daily contemporary there is a hospital in Brazil which bears over its gates this keen thrust at human weakness, made more emphatic by the recent abolition of titles of rank in that country: "Vanitas Humana Miserie Humanae." The late emperor, who was a philosopher, wishing to found a hospital, offered to confer a title on all who should contribute a certain sum for this purpose. The money was quickly given, and its story was engraved on the walls of the hospital in the inscription we have quoted — "Human vanity to human misery."

—The *St. James Gazette* recently contained an article recounting various instances in which women had

adopted men's clothing, and successfully concealing their sex for a greater or less length of time, had served in the British merchant service, in some privateering and piratical expeditions, and had even engaged in active fighting. Several of these persons remained undetected even after being wounded and treated in the hospitals; and, in fact, the disclosure in most instances seems to have been made voluntarily, to avoid being impressed as fighting-men, or for some such purpose. Sometimes the motive was lower, but often apparently love of adventure and excitement. One of the most remarkable cases cited is one which occurred about forty years ago, and was at that time a current topic of gossip in the army.

"An army surgeon served successively at the Cape, at Malta and at Barbadoes. This person was a small, thin, wrinkled individual, with a little voice, an effeminate aspect and strong vegetarian opinions. At the Cape he actually fought a duel with an officer who, at the mess-table, had called him a woman; yet, in spite of that, "he" was a woman, though the fact was not discovered until, having reached high rank in his profession, he died in London, enjoying the honors of surgeon-general to the army and a knighthood. Sir James Barry, as this lady was called, was well known in military circles. Many officers who can remember her are still alive."

—Mr. MacLeod, at a meeting of the Odonto-Chirurgical Society, said, according to the *Lancet*, that, having his attention drawn by a single case, he had been led to examine the teeth of various bag-pipers, and all of them represented "wearing away" of the cutting edges of the six front teeth, in a greater or lesser degree, varying with the density of the tooth structure and the time engaged in pipe playing. He found on inquiry that, on the average, it took about four years to make a well-marked impression, but that once the enamel edge was worn through the "wearing away" was more rapid. Every one was aware of the way in which the tobacco-pipe wore the teeth of the smoker, but this was not to be wondered at, the baked pipeclay being a hard and gritty substance, but that a horn mouth-piece should have such appreciable effect was, he thought, a matter of curious interest. He mentioned, however, that the mouth-pieces suffered more than the teeth, the average life of a horn mouth-piece being twelve to eighteen months, that of a bone or ivory one being about two years. The peculiarity noticed was a crescent-shaped aperture on the cutting edge of the front teeth in three localities, namely, between the central incisors and between the lateral and canine on both sides.

NEW YORK.

—A case of leprosy, of the anesthetic form, has been discovered in a boarding-house in Twenty-eighth Street, and removed to the hospital on North Brother Island. The patient is a young Central American who had recently come on to New York to attend school, and was entirely unaware of the nature of his disease, from which he has been suffering for about two years.

The case was reported to the Board of Health by the physician called in.

— The eighth special meeting of the Fifth District Branch of the New York State Medical Association was held at Kingston on the Hudson, July 22d. The principal papers read were "A Practical Study of the Region of the Spine, and Pathological Changes occasioned in it by Traumatism," by Dr. Thomas H. Manley, and "The Report of a Case of Neurotomy in Acute Purulent Pleurisy, followed by Rapid Recovery," by Dr. J. D. Sullivan. The programme of the meeting included a delightful excursion to the Hotel Kaaterskill, in the Catskill Mountains, where the members and their friends spent the night.

— The last monthly bulletin of the State Board of Health shows that during the month of June there were 8,732 deaths in the State, a number rather larger than was reported in the preceding month or in June of last year. Of these, 7,441 occurred in 136 of the cities and larger villages, having an aggregate population of about 4,165,000; which is equivalent to an annual death-rate of 18 per 1,000 inhabitants. There is a material increase in the infant mortality over the preceding month, though diphtheria caused fewer deaths. Measles and whooping-cough were of extended prevalence over the State. The proportion of deaths from zymotic diseases was smaller, however, than in June, 1889.

Miscellany.

ON THE TRANSMISSION OF TYPHOID FEVER BY THE AIR.

THE following note is translated for the *Bulletin of the United States Marine-Hospital Service* from a report by Dr. Bordas in *La Revue Médico Pharmacologique*, Constantinople, May 31, 1890.

"The writer has instituted experiments to determine the relation between the humidity of the atmosphere and the transmission of the typhic bacillus. A current of dry air, completely devoid of germs, was conducted through a vessel containing a beef-broth culture of the typhic bacillus and into a second vessel containing sterilized beef-broth. The second vessel remained sterile. The result was the same when a dry atmospheric current was passed over pumice stone saturated with a culture of the typhic bacillus. When moist air was passed through the same vessels a very different result was obtained. The sterile beef-broth culture was found, after the lapse of a quarter of an hour, to be thickly planted with the typhic bacillus.

"In nature this state of humidity is supplied by mist or fog, and statistics show an increase of typhoid fever in Paris during the months of October, November, December, and January. The most general mode of propagation of typhoid fever is by the contamination of the soil or water, but there are cases in which it is manifested by pulmonary localization. The typhic germ may penetrate into the bronchial system in spite of every means of defence possessed by the organism. Metchnikoff's studies prove that the lungs are a phagocyte battle-ground. In typhoid infection, due pri-

marily to pulmonary lesion, it would seem that the phagocytes of the lungs are ordinarily sufficient to prevent the development of the infectious germ, and that contagion, by means of the air, can take place only when the macrophagic cells cease to offer an obstacle to the invasion of the microbe."

BILL TO PREVENT FOOD ADULTERATION.

A BILL for preventing adulteration and misbranding food and drugs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, for the purpose of protecting the commerce in food-products and drugs between the several States and Territories of this Union and foreign countries, the Secretary of Agriculture shall organize in the Department of Agriculture a division to be known as the food division, and make necessary rules governing the same to carry out the provisions of this act, and appoint a chief thereof, at a salary of three thousand dollars per annum, whose duty it shall be to procure from time to time, under rules and regulations to be prescribed by the Secretary of Agriculture, and cause to be analyzed or examined samples of food and drugs sold or offered for sale in any State or Territory other than where manufactured. The Secretary of Agriculture is hereby authorized to employ such chemists, inspectors, clerks, laborers, and other employees as may be necessary to carry out the provisions of this act.

SECT. 2. That the introduction into any State or Territory from any other State or Territory or foreign country of any article of food or drugs which is adulterated within the meaning of this act is hereby prohibited, and any person who shall wilfully and knowingly ship or deliver for shipment from any State or Territory or foreign country to any other State or Territory, or who shall knowingly receive in any State or Territory from any other State or Territory or foreign country, or who, having so received, shall deliver, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated within the meaning of this act, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense, and for each subsequent offense not exceeding three hundred dollars, or be imprisoned not exceeding one year, or both, in the discretion of the court.

SECT. 3. That the chief of said food division shall make, or cause to be made, under rules and regulations to be prescribed by the Secretary of Agriculture, examinations of specimens of food and drugs which may be collected from time to time under rules and regulations to be prescribed by the Secretary of Agriculture under its direction in various parts of the country, and publish in bulletins the result of such analyses. But the names of manufacturers or venders of such foods or drugs analyzed shall in no case be published in such bulletins until after conviction in the courts of violation of this act. If it shall appear from such examination that any of the provisions of this act have been violated, the Secretary of Agriculture shall at once cause a report of the fact to be made to the proper United States district attorney, with a copy of the results of the analysis duly authenticated by the analyst under oath.

SECT. 4. That it shall be the duty of every district attorney to whom the food division shall report any violation of this act to cause proceedings to be commenced and prosecuted without delay for the fines and penalties in such case provided, unless, upon inquiry and examination, he shall decide that such proceedings cannot probably be sustained, in which case he shall report the facts to the food division.

SECT. 5. That the term "drug," as used in this act, shall include all medicines for internal or external use. The term "food," as used herein, shall include all articles used for food or drink by man, whether simple, mixed, or compound.

SECT. 6. That for the purposes of this act an article shall be deemed to be adulterated—

In case of drugs:

First. If, when sold under or by a name recognized in the United States Pharmacopeia, it differs within the knowledge of the seller from the standard of strength, quality, or purity according to the tests laid down therein.

Second. If, when sold under or by a name not recognized in the United States Pharmacopeia, but which is found in some other pharmacopeia or other standard work on *materia medica*, it differs within the knowledge of the seller materially from the standard of strength, quality or purity according to the tests laid down in said work.

Third. If its strength or purity fall below the prescribed standard under which it is sold.

In the case of food or drink:

First. If any substance or substances has or have been knowingly mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall be calculated and shall tend to deceive the purchaser.

Second. If any inferior substance or substances has or have been knowingly substituted wholly or in part for the article, so that the product, when sold, shall be calculated and shall tend to deceive the purchaser.

Third. If any valuable constituent of the article has been knowingly wholly or in part abstracted, so that the product, when sold, shall be calculated and shall tend to deceive the purchaser.

Fourth. If it be an imitation of and knowingly sold under the specific name of another article.

Fifth. If it be knowingly mixed, colored, powdered, or stained in a manner whereby damage is concealed, so that such product, when sold, shall be calculated to deceive the purchaser.

Sixth. If it contain within the knowledge of the seller any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh. If it consist within the knowledge of the seller of the whole or any part of a diseased, filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or of an animal that has died otherwise than by slaughter: *Provided*, That an article of food or drug which does not contain within the knowledge of the seller any added poisonous ingredient shall not be deemed to be adulterated—

First, in the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food under their own distinctive names,

and not included in definition fourth of this section;

Second, in the case of articles labelled, branded, or tagged so as to plainly indicate that they are mixtures, compounds, combinations or blends;

Third, when any matter or ingredient has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug, or conceal the inferior quality thereof;

Fourth, where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

SECT. 7. That every person manufacturing, offering, or exposing for sale, or delivering to a purchaser any drug or article of food included in the provisions of this act shall furnish such drugs or article of food to any person interested or demanding the same, who shall apply to him for the purpose, and shall tender him its value, of a sample sufficient for the analysis of any such article of food which is in his possession. And upon the presentation of such drug or article of food to the proper officer of the food division by a responsible person, with a request from such person for an official analysis of the same, the chief of such division shall make, or cause to be made, such analysis of the drug or article of food so presented, under rules and regulations to be prescribed by the Secretary of Agriculture.

SECT. 8. That whoever refuses to comply, upon demand, with the requirements of section eight of this act shall be guilty of a misdemeanor, and, upon conviction, shall be fined not exceeding one hundred nor less than ten dollars, or imprisoned not exceeding one hundred nor less than thirty days, or both. And any person found guilty of manufacturing, offering for sale, or selling an adulterated article of food or drug under the provisions of this act shall be adjudged to pay, in addition to the penalties heretofore provided, for all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles of which said person may have been found guilty of manufacturing, selling, or offering for sale.

SECT. 9. That in prosecutions for violations of this act proof of the act done shall be held to imply knowledge and intent on the part of the accused, unless such knowledge and intent shall be disproved on the trial.

SECT. 10. That this act shall not be construed to interfere with commerce wholly internal in any State, nor with the exercise of their police powers by the several States.

Correspondence.

"THE COUNTRY DOCTOR."

MILFORD, MASS., July 28, 1890.

MR. EDITOR: — An editorial in the *Boston Medical and Surgical Journal* of July 10, 1890, is a damper on the country doctor for not doing more to advance medicine.

It is presumable that the writer is a city born and bred doctor, who knows of the country only through his summer vacations and what he sees at the annual meetings in Boston, and judges more by the few "Rip Van Winkles" than by the majority.

The country doctor is one who advances symmetrically; he becomes rounded out in his profession from the very

necessity of his surrounding circumstances. He educates the public in a quiet way by daily contact and example. He is ingenious to adapt himself to circumstances and circumstances to his patients; and he is not confined principally, as the writer would have us believe, to prescribing for those that are simply "run down," debilitated, suffering from "functional ailments," from cold, over-work, dietary indiscretions, if my own twenty-five years' experience proves anything. How about acute and chronic lung diseases, typhoid fever, diphtheria, the exanthematosus contagious diseases, the epidemics and skin diseases, with some of which we are constantly occupied? But I see with pleasure the saving clause, which accords to him the quality of good judgment and common sense.

True, he has not the opportunity to pursue and bring to light original investigations, but he does have the clearness of sight to adopt what is good, and to be conservative in regard to theories needing demonstrative proof. He is eminently a worker, often an enthusiastic one, to the end of producing good results in treatment, and is too modest to be in haste to put before the public records of his work. His success in treatment is equal to that of his city brother, yet he rates himself below his true worth. He is often obliged to fight the battle with mortality nearly alone, because far away from affiliating counsellors, and has no near friends to share responsibility or blame. His conscience is his compass, common sense his rudder, and education the motive power that carry him through life. He does not belong to any mutual admiration society, nor does he have any journal at command through whose columns he can publish what he deems important to promulgate.

To the closing paragraph of the article in question, I will

say that I am surprised at the patronizing condescension with which the writer treats his country brother in saying, "we feel that he rather deserves praise that he is so useful a man, rather than blame that he has done so little for medical science."

Allow me to suggest that you city doctors come into the country a few years, with your notions that can be thoroughly put into practice among the wealthy city patients, and try your medical science here. You would find that you had developed seeming eccentricities, in the fact that you are too much of a specialist; and in order to succeed in a country practice you must either develop other departments, or call in other specialists, all of whom could not live.

No, my brother, you do not know nor appreciate the country doctor. He is your natural ally; he knows to whom to send such patients as need special care. Without his advice many of your patients would fall into the hands of charlatans and medical tramps.

Does he, indeed, cling to the pharmaceutical preparations of a generation or more ago? Certainly, if they are good; so do you. He is as glad to get the more elegant preparations as you are, and does so far as he can afford. But how about new remedies? The country doctor is not so much behind you as might be inferred. A few years ago one of the most eminent and progressive city doctors expressed surprise on looking into my case to find new preparations which he supposed were not used outside of the city. I do not consider myself an exception, but claim to be one among many who try, with other multitudinous duties, to keep abreast with the times.

JEROME WILMARTH, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 26, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	815	418	31.20	12.96	4.80	21.12	.96
Chicago	1,100,000	541	329	38.16	6.84	2.88	29.88	2.88
Philadelphia	1,064,777	380	178	25.48	10.40	1.56	15.86	2.60
Brooklyn	852,467	389	162	34.29	—	3.78	25.65	1.35
St. Louis	550,000	156	78	24.96	10.88	2.56	17.92	1.92
Baltimore	500,343	163	77	29.16	11.88	3.24	22.68	1.08
Boston	418,110	184	96	32.94	13.42	3.24	22.68	1.08
Cincinnati	325,000	113	6	26.70	14.24	5.34	14.24	4.45
New Orleans	260,000	129	48	23.62	10.92	3.90	9.36	.78
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	92	43	25.07	9.81	1.09	14.17	6.54
Nashville	68,513	32	13	21.57	16.35	—	23.80	—
Charleston	60,145	36	13	13.90	8.34	—	8.34	5.56
Portland	42,000	16	5	18.75	6.25	—	18.75	—
Worcester	31,622	38	20	44.71	2.63	—	39.45	—
Lowell	73,370	53	33	43.47	7.26	1.89	34.92	3.78
Cambridge	67,036	24	13	37.44	8.32	4.16	33.33	—
Fall River	64,082	51	31	49.00	5.88	—	47.04	—
Lynn	55,200	12	5	41.65	33.33	8.33	33.33	—
Springfield	41,520	19	12	57.86	—	—	47.34	5.26
Lawrence	41,058	42	—	35.70	—	2.38	30.94	—
New Bedford	38,218	18	10	50.00	—	—	50.00	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	4	4	75.00	—	—	75.00	—
Salisbury	29,242	12	6	16.66	—	—	16.66	—
Chester	28,781	8	2	25.00	12.50	—	25.00	—
Haverhill	27,138	7	3	28.56	—	—	28.56	—
Taunton	26,544	18	11	38.85	—	—	38.85	—
Gloucester	24,904	12	7	—	—	—	—	—
Newton	22,011	3	0	—	—	—	—	—
Malden	20,615	3	0	—	—	—	—	—
Waltham	17,998	10	2	10.00	10.00	—	—	—
Fitchburg	17,304	3	2	33.33	—	—	—	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	—	—	—	—	—	—	—
Quincy	14,114	9	5	22.22	11.11	—	11.11	—
Newburyport	13,915	4	1	75.00	25.00	75.00	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,404; under five years of age 1,637: principal infections diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 1,083; consumption 299, acute lung diseases 157, diarrhoeal diseases 781, diphtheria and croup 108, typhoid fever 65, whooping-cough 55, measles 20, malarial fever 15, scarlet fever 12, cerebro-spinal meningitis 12, erysipelas 8, puerperal fever 6.

From whooping-cough, Philadelphia 16, New York 15, Brooklyn 8, Chicago and Baltimore 6 each, St. Louis 2, Washington and Lowell 1 each. From measles, New York 9, Brooklyn 4,

Chicago 3, Boston, Cincinnati, Worcester and Lowell 1 each. From malarial fever, New Orleans 11, New York 3, Nashville 1. From scarlet fever, New York and Philadelphia 4 each, Brooklyn, St. Louis, Baltimore and Springfield 1 each. From cerebro-spinal meningitis, New York and Boston 3 each, Washington 2, Chicago, Nashville, Waltham and Quincy 1 each. From erysipelas, New York, Chicago and Cincinnati 2 each, Worcester and Fitchburg 1 each. From puerperal fever, Chicago 2, Philadelphia, St. Louis, Fall River and Lawrence 1 each.

The meteorological record for the week ending July 26, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:-

Week ending	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.	Velocity of Wind.	State of Weather.*	Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.					
Saturday, July 26, 1890.						8.00 A. M.	8.00 P. M.					
Sunday, .20	30.11	61.0	68.0	54.0	61	61	61.0	N.W.	10	4	O.	0.98
Monday, .21	30.24	61.0	68.0	53.0	59	49	54.0	N.W.	4	7	C.	
Tuesday, .22	30.24	64.0	72.0	55.0	52	63	58.0	S.E.	2	9	O.	
Wednesday, .23	30.25	68.0	77.0	59.0	60	49	55.0	S.W.	11	8	C.	
Thursday, .24	30.26	63.0	70.0	57.0	56	50	56.0	S.E.	2	9	O.	
Friday, .25	30.03	73.0	83.0	65.0	97	91	94.0	S.W.	8	15	O.	0.48
Saturday, .26	29.92	75.0	81.0	70.0	87	93	96.0	S.W.	12	15	O.	0.98
Mean for Week.	30.02		74.0	59.0			71.0					

*O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 26, 1890, TO AUGUST 1, 1890.

With the approval of the Acting Secretary of War, leave of absence for ten days is granted Captain CURTIS E. PRICE, assistant surgeon United States Army. S. O. 175, Par. 3, A. G. O., Washington, D. C., July 29, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 2, 1890.

BLACKWOOD, N. J., assistant surgeon, ordered to duty in the Bureau of Medicine and Surgery.

WALES, P. S., medical director, ordered to duty in charge of the Museum of Hygiene.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING JULY 26, 1890.

BAILLACHE, P. H., surgeon. Granted leave of absence for seven days. July 26, 1890.

HUTTON, W. H. II., surgeon. To proceed to Chicago, Ill., on special duty. July 24, 1890.

GODFREY, JOHN, surgeon. Granted leave of absence for thirty days. July 21, 1890.

PECKHAM, C. T., past assistant surgeon. When relieved at Memphis, Tenn., to proceed to St. Louis, Mo., and assume command of the Service. July 9, 1890.

DEVAN, S. C., past assistant surgeon. Granted leave of absence for twenty-five days. July 15, 1890.

KALLOCH, P. C., past assistant surgeon. Orders of July 5th to St. Louis, Mo., revoked. July 8, 1890.

WILLIAMS, L. L., past assistant surgeon. Relieved from duty at Baltimore, Md., and to assume command of Service at Memphis, Tenn. July 8, 1890.

PERRY, T. B., assistant surgeon. To proceed to Baltimore, Md., for temporary duty. July 17, 1890.

STONER, J. B., assistant surgeon. Granted leave of absence for thirty days. July 21, 1890.

HUSSEY, S. H., assistant surgeon. To proceed to Pittsburgh, Pa., for temporary duty. July 18, 1890.

YOUNG, G. B., assistant surgeon. Granted leave of absence for fifteen days, on account of sickness. July 12, 1890.

SIMPSON, W. G., assistant surgeon. To proceed to Buffalo, N. Y., for temporary duty. July 12, 1890.

HOUGHTON, E. R., assistant surgeon. To report to the Medical Officer in Command, New York Marine-Hospital, for temporary duty. July 14, 1890.

PROMOTION.

MAGRUDER, G. M., past assistant surgeon, to rank as such from July 12, 1890.

APPOINTMENTS.

HOUGHTON, E. R., assistant surgeon, to rank as such from July 12, 1890.

BENEDICT, A. L., assistant surgeon, to rank as such from July 24, 1890.

OBITUARY. JOHN D. GRISCOM, M.D.

Dr. John D. Griscom, probably the oldest member of the College of Physicians in Philadelphia, died at his residence, at Haverford College, July 23d. The deceased was born in Philadelphia on March 23, 1809. He was educated at the University of Pennsylvania, and received his title from its medical college. He soon built up a large practice, and at one time it was claimed that he had the largest visiting practice in the country. He was said to have visited in one day ninety-five patients. Dr. Griscom was for a number of years the chairman of the Obstetrical Committee of the College of Physicians. For the past twenty-five years he had not been in active practice.

BOOKS AND PAMPHLETS RECEIVED.

McGill University, Montreal, Annual Calendar and Faculty of Medicine. Fifty-eighth session, 1890-91.

Clinical Case. A Case of Trephining for General Paresis. By Charles G. Wagner, M.D., Utica, N. Y. Reprint. 1890.

University of Georgetown, Forty-second Annual Announcement of the Medical Department, Washington, D. C. Session of 1890-91.

Hystéropexie Abdominale Antérieure et Opérations sur Puissances dans les Rétrodiéviations de l'Utricule. Par M. Baudouin. Publications du Progrès Médical Paris, 14 Rue des Carmes, Paris.

The Throat and Nose, and Their Diseases. With 120 illustrations in color, and 235 engravings. By Lennox Browne, F.R.C.S., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Third edition, revised and enlarged. Philadelphia: Lee Bros. & Co. 1890.

Scheme of the Antiseptic Method of Wound Treatment. By Albert Hoffa, M.D., Private Doctor of Surgery in the University of Würzburg. Translated from the German, with additions, by special permission of the author, by Aug. Schachner, M.D., Ph.G., Louisville, Ky. 1890.

Original Articles.**SOME ASPECTS OF OUR MEDICAL SERVICE
IN THE WAR OF THE REBELLION.¹**

BY GEORGE H. LYMAN, M.D., BOSTON.

MR. PRESIDENT AND GENTLEMEN: — You have been so often instructed and entertained by exciting narrations of strategic and tactical operations, with graphic descriptions of their final culmination upon the numerous battle-fields of our armies during the War of the Rebellion, that the request for a paper upon the more prosaic medical service of that period is complied with, with great diffidence, and only upon the assumption by the chairman of your executive committee of all responsibility for any lack of interest it may have to those whose attention has never been especially called to the administrative details of this branch of the service.

If you find the personal pronoun too conspicuous, please remember that the paper claims to be only an outgrowth of a few of the *personal* reminiscences and opinions, *personal* experiences of a service extending from July, 1861, to November, 1865, over every department of the country (with one exception) in which active operations were prosecuted — illustrating as concisely as possible, by the narration of facts, occasional statistics, and more or less of free criticism, *some* of the aspects of the medical service of the war. It has been well said, that however trifling they may be in themselves, "all such souvenirs belong to history."

For any exhaustive treatment of the subject, the military historian will find abundant material elsewhere, and especially in that mine of information, the huge folios of the surgeon-general's bureau — a permanent monument to the industry and ability of the collators and the wise liberality of government expenditure for scientific purposes.

When one considers for a moment that the greatest mortality in all campaigns of any considerable duration results from disease and not from wounds, from the prolonged inaction of preparation and not the occasional shock of battle, it becomes evident at once that, without skilled sanitary supervision, the fighting efficiency of the best army must soon become demoralized and useless, and that no troops, without such oversight, can possibly be at their best, either in *moral* or *physique*. This is equally a truism when applied to the *results* of severe battles upon the continued efficiency of the survivors as an organization. The removal of the wounded from the field, the emergency dressings and operations, always accomplished in haste, under difficulties and embarrassments; the subsequent supervision of, and transportation to, general hospitals prepared in advance hundreds of miles perhaps from the theatre of war (all of which must be so arranged as not to embarrass the movements of troops); and, finally, the difficult and disheartening task of securing prompt return to duty, at the earliest possible moment that they are fit for it, of those who would willingly stay away; all fall within the direct province of the medical service, and when successfully accomplished, "properly entitle the medical department to its full participation in the glories and triumphs of the whole."² That this result was successfully accomplished by our medical officers, may, with-

¹ Abstract of a paper read before the Massachusetts Historical Society, May 13, 1880.

² Macleod on the Surgery of the Crimean War, page 10.

out presumption, be claimed for them, and at the expense of a mortuary record proportionately larger than that of any other staff corps.³

The political atmosphere of the spring of 1861 will always remain fresh in your memories. . . . The rapid assembling and departure of troops, with the exciting rumors of danger to the Capitol, kept all pulses at fever heat; and being capable of nothing else, my professional services were proffered to Governor Andrew in any way in which he could make them useful. The prompt reply was, "Go to General Schouler:⁴ tell him to give you a room and anything you require, and, so far as you can, relieve me from responsibility for the proper medical outfit of the regiments." Later, he sent Dr. Dale to my assistance, and such was the origin of the present Massachusetts State Medical Bureau. I mention this merely as a small additional record of Governor Andrew's prompt energy in his care for the soldier; and I may also add, that, whenever in doubt (not a rare occurrence, by the way), as to some large expenditure in regard to which he was consulted, the invariable reply was, "Do everything needful for the safety and comfort of the men, and I will be responsible." His thoughtful provision during the previous winter, as to army clothing, and his ready assumption of pecuniary responsibility, sent our Massachusetts troops to the front better provided than those of any other State, some of this material, indeed, being turned over by the government to other and less well-provided contingents. With the constant and almost incredible pressure upon him from every quarter, his heart never failed in eager response to any suggestion which could possibly mitigate the hardships which he foresaw to be in store for the Yankee soldier. His memorable request to the Mayor of Baltimore, that the killed of the Massachusetts Sixth should be "tenderly" sent home was but the natural expression of his loving interest in them living.

That the medical officers of Massachusetts regiments should be of the best attainable, the Governor, at an early period, provided for a careful scrutiny by an examining board, of candidates for these positions, refusing commissions to all but those who met with its approval.

In 1861, the United States had, practically, no army. A nominal regular service of less than 12,000 enlisted men (less than any one of the volunteer corps then in process of organization), scattered here and there over the country in small detachments — one of the largest of them, in Texas, obliged to give its parole and disarm — offered a barely respectable *nucleus*, while the better pay of volunteers became at once a bar to its increase by enlistment; so that, in fact, twelve months later, during the Chickahominy Campaign, the regular troops were mostly comprised in one division under General Sykes, attached to the Fifth Corps.

The medical service of the old army was, of course, correspondingly limited (115 in all).⁵ The members

³ Killed in action, 19; wounded in action (of whom 10 died), 83; killed by guerrillas, 13; killed by accidents in the line of their duty, 9; died in rebel prisons, 4; died of yellow fever, 7; died of cholera, 3; died of other diseases, most of them incident to camp life, or as the direct result of exposure in the field, 271. *Medical and Surgical History of the War*, *Part*, vol. i, p. 29; *Part*, vol. iii, p. 261.

⁴ Nor were the services of medical men strictly confined to that department of the army. A respectable quota of the profession in Massachusetts entered the service as privates or as line officers, the latter either by original commission or after resignation from the medical corps. Adams, Draper, Sargent, Stedman, Wild, were examples from Boston.

⁵ Adjutant-general.

⁶ *Medical and Surgical History of the Rebellion*, vol. iii, p. 299.

of this small staff, with the exception of those who had served in the Mexican Campaign, with its small army, had necessarily little or no experience in active field operations on a large scale. Subsequent to that period, they had been scattered over widely separated posts garrisoned by small detachments, and far from those opportunities for constant mental attrition with professional *confrères*, so useful, and indeed necessary, as a stimulus.

They had had no such ample facilities for practical experience and mental culture as are afforded to their *confrères* in the services of Europe, with their large garrisoned cities near universities, medical schools and hospitals, resources freely open to them, and of which they not only can, but are *expected* to avail themselves. I make no invidious comparisons or ungenerous criticism—I mention only facts as they existed and for which they were not responsible—which, indeed, many, especially of the younger men among them fresh from civil life and its opportunities, who had lost none of their enthusiasm for professional progress, repeatedly deplored. Some, in fact, left the service after the termination of the war, and now rank among the most prominent and able medical men of the country.

It should also be said, that at the opening of the war, the organization and rapid development of the service gave to these older officers a prominence which was justly their due. Their familiarity with administrative duty, indeed, made it indispensable, not only in the purveying department, but in organizing centres away from the theatre of active operations. The surgeon-general himself, however, was soon found to be too superannuated for his position, and was, without hesitation, superseded by a comparatively young man, thus breaking, once for all, the iron-bound rule of seniority; but the emergencies of the time overrode all precedent, and the same course was soon adopted throughout the service as occasion required. Of course, discontent, jealousy, and sometimes decided friction were manifested whenever occasion offered, and, perhaps naturally enough, they were especially intensified towards those appointed from civil life.

Medical and surgical science had made vast strides in the preceding quarter of a century, and a large proportion of the volunteer medical staff were, to say the least, quite their equals in theoretical and practical acquirements. To men with the intellectual gifts of Bell, Hamilton, Bryant, and hosts of others, this friction, amounting as it often did to insolence, was well-nigh unendurable, taxing their patriotism, patience and good-nature to the utmost. For the younger men—the majority of the regular corps—too much cannot be said in praise. They had entered the service under different conditions as to requirements, the stimulus of knowledge was still alive, and when not hampered by the routine of bureau work, they displayed on all occasions professional ability and energy of which any army might well be proud. Men like Coolidge, Murray, Letterman, Bartholow, Woodward, Gooley, Webster, Woodhull, Otis, Billings, and others of that stamp, need only be mentioned in proof.

Under these circumstances, then, the great volunteer host so suddenly called to arms had to be supplied from civilian ranks, not only with its general and line officers, but with its medical staff; and these may proudly claim that no nation in the world has shown more brilliant results of medical, surgical and sanitary

skill than were finally accomplished in this prolonged and bloody contest. From the beginning, men of the highest reputation in the profession promptly offered their aid; and although as the war progressed, and the demand so largely increased, recruits for the medical service were more difficult to obtain, the available supply of this grade of men becoming exhausted, and recourse being necessarily had to recent graduates, or even under-graduates, it was but a repetition of the experience of all great armies. In the Franco-Prussian War, the German army, notwithstanding its thorough organization and years of preparation, required over two thousand civilians in addition to its regular medical staff, during the short period of seven months of active operations in that campaign.⁴ Under the First Empire, it is said that at least half the medical men in the military service were under-graduates, having neither the capacity nor legal right to prescribe.⁵

The study of medicine, surgery and sanitary science, in their especial application to military operations, had, of course, been much limited in this country—no Larrey, Percy, Guthrie, Langenbeck, nor Baudens to give an initiative in that direction. Yet here, as elsewhere, our countrymen were equal to the emergency; readily adapted themselves to the new conditions by study and practice; learned by heart that army gospel, the Regulations; and, it may be added, soon learned to obey or disregard the same as circumstances required—for they were on too narrow a scale for the time. It was not always possible to "get a quart into a pint pot."

As showing that doctors were not a mere ornamental appendage, a few words of statistics will not be inappropriate: The total cases of wounds and disease with which they had to deal, from May, 1861, to June, 1865, reached the enormous sum of 5,825,480 whites and 629,354 blacks, of which total 210,000 were fatal. This does not include sickness and death among prisoners of war. The number killed in battle or dying of their wounds (exclusive of accidental injuries) was 93,960 out of a total wounded of 236,000.⁶ The sickness from all causes was greatest during the first months of the war, but from special causes such as malaria, diarrhoea, dysentery, etc., aggravated by paludal influences, the greater mortality occurred naturally at a later period. It is peculiarly noteworthy, as against all anticipations, that the colored troops suffered more frequently and fatally than the whites from malaria, "succumbing quickly under morbiotic influences."⁷

Congress having, early in June, 1861, made provision for twenty brigade surgeons of volunteers to be commissioned by the president, after examination by an army board, Drs. Bell, Bryant and myself appeared at its first meeting, June 28th.

This corps of brigade surgeons was originally added to the army, under the supposition that they would have supervisory authority over the regimental surgeons, but being assimilated with the regular medical staff, they really ranked by date of commission, and could only exercise such authority over regimental surgeons as they derived from their assignment to duty as medical directors of brigades. At a later period,

⁴ Von Moltke; Franco-German War, vol. III, p. 220.

⁵ Baudens: *La Guerre de Crimée*, page 147.

⁶ Medical and Surgical History of the War. Med., vol. III, pp. 1, 6,

and Surg., vol. III, pp. 27, 962.

⁷ Loc. cit., pp. 12, 64.

as will be seen, this difficulty was met by another act of Congress appointing a corps of eight medical inspectors (afterwards increased to sixteen) with the rank of lieutenant-colonel. . . .

In September, 1861, I was assigned as medical director to the division originally organized by General Sherman, then in camp opposite Georgetown under command of General Fitz John Porter.

A line of earthworks, extending from Chain Bridge above to Alexandria, some ten or twelve miles down the Potomac, was in process of construction, behind which the organization of the Army of the Potomac was constantly progressing as troops arrived. The air was full of rumors and false alarms sufficiently exciting to the inexperienced, — a category, by the way, comprising, with few exceptions all, from generals to privates.¹⁰

You all remember the unavailing cry of "On to Richmond," and the disgust with which the army went into winter quarters to consume their supplies and growl at the discomforts of inaction. The *ennui* was perhaps less to the medical staff, inasmuch as the daily routine of duty over the extended lines in the sanitary supervision of camps and hospitals, the elimination through examining boards of some worthless professional material, devising improvements in heating and cooking, with the direct attendance upon the sick, who, unused to camp life, required constant care and encouragement, left us little time for growling. This inaction in camp is always to be deplored; not only does its influence upon the sick list become at once apparent, but the experience of all armies proves that it becomes the foundation for a dangerous development of disease, when, at some later period, it becomes necessary to make heavy drafts upon the energy and vigor of the soldier. Indeed, in our own case, before the winter was over, direct manifestations of this truth became apparent in a low form of remittent fever, subsequently known throughout the army as typhoid malarial. . . .

The month of delay in siege operations before Yorktown, though useful to the medical department in giving an opportunity for revision of supplies and disposing of the sick and disabled, was of no service to the troops in a sanitary point of view, — the bayous and low grounds from the York and James rivers on our flanks favoring the development of malaria; though entire freedom from this was not to be expected on the peninsula.

An illustration of the animus of some of the old surgeons toward those of the volunteer staff at the beginning of the war occurred while here. The brigade surgeon placed in charge of the division hospital reported that the chief medical director had superseded him, by an order placing a civilian, one of a temporary deputation from New England, in charge. He was promptly directed to ignore any such order,

¹⁰ Orders from Washington were of almost daily frequency, enjoining upon medical officers the need of complete preparation for impending active service. Among others was a peremptory one as to improper use of ambulances, especially by officers for excursions to Washington and neighboring camps. Among other duties in Boston, I have heard of for a number of light Convoys wagons and hospital transport, but like others of the abolition supplies from Massachusetts, these vehicles were devoted to other uses at various headquarters. The abuse became so great at last, that McClellan ordered medical directors to report every case of their illegitimate use. What was to be done? Report to the War Department? Hooper riding to and fro, comfortingly, in one of them? What was to be done? Report the chairman of the military committee and a member of the House? After some chafing by the mess at my dilemma, it was done to the amusement of the others, and for a short time, and a short time only, with good effect.

unless received in the regular course through division headquarters.

Reporting the facts to General Porter, he at once interviewed the medical director, and so emphatically as to prevent any future repetition of such procedures.

It was a common custom during the war for such deputations of medical men to come to the front to offer their services for the sick and wounded. Such visits were a novel experience, a chance to observe all that was going on, and to do any operating which might fall in their way. As a rule, subject to many brilliant exceptions, the occasions were rare indeed in which they seemed over-solicitous to relieve one of the nursing and drudgery, for which there was such abundant opportunity, as our medical officers had been all winter under canvas, familiarizing themselves with their duties in anticipation of the more active professional work in the field, it seemed to them very unjust that they should be superseded by "curiosity hunters," who could at pleasure be welcomed to their homes with a flourish of trumpets for their self-sacrificing patriotism. This particular case was more aggravating from the unjustifiable action of the chief medical director, who, as an old army officer, knew better, and from the want of courtesy shown by old acquaintances, who, knowing my position perfectly well, had neither the courtesy nor good feelings to make their presence known. So far as I know, all such deputations invariably received a cordial welcome, whatever their motives, but it was not unreasonably required that they should come "by the front door." For ordinary surgical service, no help was needed; for emergencies, no one could be otherwise than thankful for outside aid, when offered in a proper spirit, as was cheerfully recognized a little later, when these same gentlemen rendered most valuable service at Williamsburg. . . .

May 22d, the Chickahominy was reached at Cold Harbor, destined later to be the theatre of two desperate battles, namely, Gaines' Mill (so called), on June 27th, between the Fifth Corps, and the Confederates under Stonewall Jackson, Longstreet and the Hills, and two years later, when Grant made his last effort to reach Richmond north of the James, and known as the battle of Cold Harbor. The Fifth Corps went into camp a short distance above at New Bridge, upon the extreme right of the army.

Any detention in this locality, it was again prophesied, would cause a rapid development of malarial disease. Though this undoubtedly increased during the five weeks of delay here, it is more than probable that the locality was not the only cause, for, if the experience of other armies may be trusted, the long inaction of the previous winter, and the slow progress up the Peninsula, followed by the exhausting work on corduroys, and the bridges over the Chickahominy, were important factors in this development.

Diarrhea prevailed very generally among officers and men. It was perfectly rebellious to treatment, and later, in its chronic form (as I have good reason to remember), continued for years; but true dysentery, that scourge of armies so situated, never obtained extensive foothold — thanks to careful camp police, the abundance of desiccated vegetables, and the general good quality of the rations.

The first cases of scurvy developed here, in the regular brigade of our corps. This unwelcome information, forwarded to general headquarters, was received with incredulity, but confirmatory cases soon mani-

fested themselves in the vicinity. Supplies of lemon juice and fresh vegetables coming in, the disease was soon checked. Desiccated vegetables were made *compulsory* so far as possible, but the troops were always averse to them, avoiding their use where they could. . . .

Hanover Court House was our first experience, and, though not a large affair, was enough for initiation. The wounded were collected, dressings and operations performed until dark, when, the fight being hardly over, it was necessary to stop for want of candles, stimulants, dressings and portable food, of which there was an abundant supply on the train at the rear, but inaccessible when wanted. Bearers and stretchers were obtained with difficulty.

Although General McClellan, who had come up at night, was disposed to be very complimentary, the day's experience was by no means satisfactory to me, in view of the severer engagements in anticipation.

Under the old régime these difficulties were more or less unavoidable, and indeed became so manifest later on, that, as will be seen, an attempt was inaugurated, July 4th, at Harrison's Landing, by the new medical director, Dr. Letterman, for the re-organization of the ambulance service. Some of the reasons for this may be properly alluded to. It is manifest that an active opening at noon, or even earlier, and lasting until dark, gives little chance for the prompt treatment of the wounded, without a properly organized corps of bearers keeping pace with the movements of the line—men of sufficient experience to do their work without interference with those engaged—picked men, enlisted for that duty, and wearing a distinctive uniform. They should be drilled in the peculiar requirements of the service, such as the proper handling of the wounded, the use of restoratives, and the temporary arrest of hemorrhage, their extrication from the *melee*, and rapid transfer to the nearest relief station. Such a command, under its own non-commissioned officers, should be directly responsible to the medical staff. By the practice then relied on, musicians, hospital attendants, and individuals unfit for other duty, were the sole dependence, and it is useless to say, the graver the emergency, the less that reliance became.

Special details for such emergencies, even if granted, are a snare and delusion, for no commanding officer is likely to detail his best men, until, at any rate, the fight is over very late in the day, by which time a blind man would be as good as any.¹¹

As early as April, 1862, the new surgeon-general, Hammond, writes¹² to the Secretary of War of the "urgent need" of re-organization. "In no battle," he says, "have the wounded been properly looked after; men leave the ranks under pretence of carrying their comrades from the field, and seldom return." He claims that the adoption of this plan (referring to one submitted) would obviate the necessity of taking men from the line as nurses, cooks and attendants, and thus "return 16,000 men to duty in the ranks." His proposition being refused as inexpedient and unnecessary, he writes again in September, calling "attention to the frightful state of disorder existing in arrange-

¹¹ Says Macleod (*Surgery of the Crimean War*, page 8), as a result of his Crimean experience: "Steady soldiers of character, or men especially recruited, form a distinct corps, retaining the military spirit and constituting a force from which they can be sent and well fed, having fixed duties and regular training, and liable to military service, entirely under command of the medical officers, and yet subject to military discipline—such is a rough outline of the corps which would render the best service in the hospitals of an army in the field."

¹² Medical and Surgical History of the War, page 204, et seq.

ments for removing wounded from the field of battle"—to which Halleck replies in his contemptuous, bureaucratic style, that "the enemy provide for *their* wounded, with not one-half of our ambulances and facilities," adding—what was well enough known before—that it is the duty of all officers to furnish fatigue parties on requisition—as if it were perfectly feasible to get in a requisition or tell off the men during an engagement.

Although, as I have said, Dr. Letterman made the first real step in advance, it was not brought to the best results attained during the war, until 1864, when the struggle was nearing its end.

It would be well if our war department could realize, in advance, that in a war of any magnitude—should such again occur—the true ideal will never be reached, with anything short of a specially enlisted corps, under the direct orders of the medical department, and regardless of increased expense, which, by the way, would be comparatively insignificant, regard being had to the number already allowed—the loss of fighting material leaving the ranks to aid their comrades—and, above all, the saving of lives now unnecessarily wasted by hours, and even days, of exposure, unknown and uncared for.

Another embarrassment existed in the absence of co-operation—often direct antagonism—between the medical and quartermasters' departments, unavoidable under the then existing organization. Hospital wagons and ambulances of the train should be in special charge of an assistant-quartermaster, taking precedence of all but the ordnance when an action is impending, keeping in touch with, and directly responsible to the chief medical officers, where they would be readily found to deliver supplies as required, and, when vacated, serving, if needed, on occasion, as temporary ambulances. Hospital transports and boats, fitted at great expense, were not rarely diverted to other uses by the quartermaster's department, against all remonstrances, until finally, near the end of the war, they were placed where they should have been long before, under the exclusive control of the medical department; by order of the Secretary of War (February 8, 1865).

Returning to camp at New Bridge, I resolved to attempt an improvement in one direction at least, and encouraged by General Porter, obtained a large covered six mule wagon, filled with ample extra supplies, with a small one horse cart for ready distribution of the same, all to be kept strictly intact for emergencies only. They were stationed behind my tent. This Yankee notion occasioned gibes and jokes from high and low. Soon the quartermaster proposed sending my mules back to White House, to draw their own forage. I protested against this entering wedge. The general thought me unreasonable; but after a lively scrimmage with the quartermaster, I was sustained, and that wagon went through the subsequent Seven Days' Retreat on time, dispensing its blessings where needed, not only in the Fifth but adjoining Third Corps. . . .

Having been notified some days before to get rid quickly and quietly of all the sick and the hospital impediments not actually needed, they were sent over the Chickahominy; and in the afternoon of June 26th, the operations of the memorable Seven Days' Retreat to the James River were initiated by the crossing of Lee's left at Meadow Bridge, and an assault

upon our field-works at Beaver Dam and Mechanicsville. This onslaught was repulsed with great loss to them; but the simultaneous approach of Jackson from Hanover, upon our right rear, rendered necessary the concentration of the corps in better position a little farther down the stream. . . .

In reviewing this retreat, it is not easy to see how more could have been done by the medical department. All plans were necessarily subordinated to the operations and movements of the troops. There were seven days of continuous fighting and marching, over roads encumbered with trains, artillery, and three thousand cattle; while at every lateral *embouchure*, the enemy were ready to interrupt the march. A large field hospital at Savage's Station absorbed great numbers of wounded, others being brought along in ambulances, or struggling along, when able, on foot. Commissary supplies and transportation, though much had been destroyed, were all (and more) that could be well managed or made useful. As it resulted, many wounded were, of course, left in the hands of the Confederates.

It had now been generally recognized that methods of detail in the medical service were in urgent need of revision; and the chief medical director (now Dr. Letterman, who had replaced Tripler, July 3d) organized a board to devise new methods for the ambulance service. Although a member of this board, I was able to attend only the first meeting (and at that required assistance to dismount), having been a victim to malarial disorder since leaving Howard's Bridge, April 5th, weeks before.

A few days later was ordered to report in Washington for assignment to duty as one of the new corps of medical inspectors.

Before leaving the Army of the Potomac, however, I had occasion to witness another instance of President Lincoln's simplicity and indifference to all ceremonial. He had come down on his celebrated visit to see for himself what McClellan was about, and was given a night review, the field being illuminated by enormous brush fires. The review over, he became, of course, the centre of attraction. After a pleasant talk with this group, and bidding General McClellan good-night, he remarked that it was "about time to be getting home," evidently intending to make his way to the boat alone, regardless of escort, but was soon made aware that the commander-in-chief of the American armies could not be so unceremoniously treated, and though he thought it quite useless, was escorted to the wharf by the large *cortege* of general officers.

(To be continued.)

When removal of the uterine appendages was proposed, but long before the just and true principles on which it is now based could be formulated, everybody rushed into the trial of it, and the result was a disastrous epidemic, the chief burden and discredit of which fell upon me. I was more horrified than I can tell; and much of my time was taken up in disclaiming the doubtful honor of what was called "Tait's operation," in the performance of which every principle advocated by Tait was neglected, or deliberately outraged. If the men who engaged in this work had waited for a reasonable trial, a fair discussion, and a just verdict, much discredit for our art would have been spared us.—*Lawson Tait's Address in Surgery at the British Medical Association.*

SOME OF THE RELATIONS OF CLIMATE TO HEALTH AND DISEASE.¹

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LIVING as we do in a constant atmospheric bath, it behoves us to know something very definite if we can of its relations to the physical conditions of our bodies. To consider the relations of this bath to our respiratory organs alone is to discuss a portion only of our subject. Yet I know of no attempt to discuss the matter adequately, although many partial discussions have laid claim to be complete and exhaustive treatments of the subject. Nor is it possible in the brief time here allowed to do more than to clear away some of the deep fogs and to outline the barest statement of such beliefs as our daily observation proves are founded upon facts.

Diseases have been too often regarded more as entities with a single exciting cause than as progressive tissue changes with many exciting causes, that are revealed to us moreover not by *a priori* reasoning but by symptoms. The influence of the weather upon disease has been exaggerated; we have not yet established logical and scientific indications for preferring one climate to another,² and the result has been that our experimental attempts to find an ideal climate for a given disease have been at times disastrous rather than helpful to the patient.

Absolute Humidity.—Let us begin with the consideration of humidity. Nearly every argument upon this subject is based either upon the definite statement or else the assumption that the absolute humidity of the air (the weight, in grains, of aqueous vapor per cubic foot of air) is dependent upon temperature. It is nothing of the kind.³ At all temperatures, even the lowest, there is a process of evaporation going on, modified by many varying conditions, among which may be mentioned the direction, temperature, velocity and character of the winds, whether they be wet or dry. Air is cooled and rendered less able to hold aqueous vapor until at last a temperature, the dew point, is reached, at which vapor begins to be condensed.

Practically this dew point is determined by the readings of a dry and a wet bulb thermometer, since the difference between them has been empirically obtained and mathematically tabulated to bear a certain ratio to the complement of the dew point, that is, to the difference between the temperature of the air and of the dew point. In order now to estimate the weight of aqueous vapor actually present in the air, it is necessary to have determined the elastic pressure or tension of vapor (that is, the amount of barometric pressure due to aqueous vapor), not at the temper-

¹ Read before the Massachusetts Medical Society, June 11, 1860. In 1852 Dr. Smith read a paper before the Society, entitled "A Study of Pithisis and Pneumonia in Massachusetts." He was thereupon appointed a committee of one to co-operate with Professor Shaler and General Greeley in studying the distribution of diseases, and the solution of more intricate problems, presented themselves than he suspected when he accepted the appointment. He has been pursuing the work with much diligence and zeal for the past two years, and the present paper was intended as a sort of preliminary report. He died after a brief illness while the proof-sheets of this article were awaiting his final revision.

² Although we know, for example, that a wet soil favors disease, there are reasons for believing that this is not in itself a law governing disease, but only a particular instance of distribution under some circumstances.

³ It is true that with a high temperature there is, as an abstract law of physics, a possibility of more aqueous vapor being present than with a low temperature. We are not, however, discussing possibilities, but actualities of our daily surroundings.

ture of the air, but at the temperature of the dew point. The weight of aqueous vapor can then be calculated.

It is evident first, that the dew point does not depend upon the temperature of the air; secondly, that the temperature of the air has nothing to do with absolute humidity, except to fix the highest possible limit to its amount; thirdly, that it is the vapor tension of the dew point which fixes the actual amount of aqueous vapor present at a given air temperature.

To these rules one exception should be made. When vapor tension is at its maximum, that is, when the air is said to be "saturated" with vapor, the complement of the dew point is zero, that is, no evaporation is going on, and there is no essential difference between the readings of the two thermometers. At such infrequent times only does the absolute humidity depend upon and vary with the temperature of the air.⁴

Now can we say that there is such a general correspondence between the curves for air temperature and for absolute humidity that for all practical purposes we can assume an inter-dependence. The curves upon study are found not to correspond closely with each other; indeed, we know that the same degree of temperature will by no means always cause the same degree of absolute humidity either in the same or in different localities. For example, Boston, Denver, Santa Fé, Boise City and Winnemucca, Nevada, have all nearly the same degree and curve for temperature; yet Boston has a much higher degree of absolute humidity than has any of the others, while Denver, Santa Fé and Boise City have more than Winnemucca. In Denver and Santa Fé, too, may be seen how little of mere similarity exists between the curves for temperature and the amount of aqueous vapor.

Relative Humidity.—Turning now to the consideration of relative humidity, we find it to be usually defined as the ratio or percentage of the vapor actually present at any time in a given volume of air to that required for the full saturation of the same volume.

Such a definition plunges us deep in an inextricable confusion of ideas by employing terms which have survived long after the theories have disappeared under which they were developed. Moisture, dryness, humidity, vapor and saturation are rarely used with precision and consistency in even scientific discussions. What can be more perplexing, for example, than to find that after a writer has discarded as worthless the data of relative humidity, he continues to refer to "sensations of dampness," to illustrate the fact that although over a wet soil we find a low temperature and a small absolute humidity (a dry air), we frequently find also an atmosphere "saturated" with moisture. We all know that a wet soil is a cold soil, has a high relative humidity and often a misty atmosphere; can the locality be considered both wet and dry at the same time?

Somewhat akin to this is the common and unfortunate confusion with each other of clouds, mists, fogs, dew and true vapor, the use of the terms humidity and moisture to include both true and partially condensed vapor, and finally the use of the term vapor when we do not mean true vapor, but only a liquid water in a

state of extremely fine subdivision. This is a relic of a seventeenth-century idea that the "particles" of water vapor or the minute cloud particles with which true vapor is often confounded are of vesicular form, that they are minute bubbles instead of drops, and that they can therefore float freely in the air. Although the air may be full of moisture in the shape of globules of water for hours without a large amount of true aqueous vapor being present, true vapor is not sustained in the air like water in a sponge, nor does it float like particles of dust. It is one of the actual gases of the air, sustains itself like other gases, and is governed by the laws of gases, so that, using air in its general sense, we should say that air contains watery vapor just as it contains oxygen.

A similar confusion of ideas is embodied in the use of the term "saturation" of air, as though air dissolves and holds water in the form of vapor, much as water dissolves salt. The air does nothing of the kind, for at a given temperature the same quantity of vapor that can exist mixed with air may pass into a vacuum and remain there without the presence or aid of air. Relative humidity, then, has no relation to air, but according to a law of gases is, strictly speaking, a relation between vapor and the space it occupies.

In other words, relative humidity is a ratio of elastic pressures, the elastic pressure of the dew point and the elastic pressure of the air temperature.⁵ As the dew point approaches or recedes from the air temperature, so will the relative humidity or the evaporating power of the atmosphere vary. Instead of saying that the vapor now present is a certain per cent. of "saturation," it would be more precise and far less confusing to say that the tension of the vapor now present is a certain per cent. of the highest possible vapor tension at the given air temperature.

Objections to Relative Humidity.—It is evident at this point that the reason for accepting *absolute* and rejecting *relative* humidity, because "our knowledge of the humidity of the atmosphere is not gained by the simple observation of an instrument as is our knowledge of the temperature, but through laborious computations by means of tables and employing the results of observations of two instruments—the wet bulb and dry bulb thermometers—so that there are more chances for errors in observation and computation,"⁶ is not a valid one. Both sets of data are derived from the same instruments and the same observations; the labor of computation and the chances for errors are no greater in the one case than in the other, while in neither case are they especially laborious.

The objection that has been made to the use of *relative* humidity, on the ground that it "is not a per cent. of some fixed quantity, but is a per cent. of a quantity which varies with every degree of temperature,"⁷ is more plausible and confusing. Strictly speaking, however, the quantity represented by "100 per cent. of saturation" is a very fixed one, being the quantity of aqueous vapor which will give the highest possible vapor tension at the given air temperature; and this

⁴ Yet this exceptional atmospheric condition is substituted in arguments for ordinary, every-day conditions, and is the base upon which the whole superstructure of the "dry-air" theory of disease is reared. See Annual Report of Michigan State Board of Health, 1881, page 427.

⁵ The Causation of Pneumonia, by Henry B. Baker, M.D., in Annual Report of Michigan State Board of Health, 1886, page 285. We might add here that the author intends to reject all data of humidity whatsoever, and estimate the absolute humidity by the simple observation of the thermometer.

⁶ Report of Michigan State Board of Health, 1881, page 427.

⁷ Since vapor tension and absolute humidity are correlated terms, we can express the relative humidity as a ratio of the weights of aqueous vapor, that is, by a ratio of the absolute humidities corresponding to the given vapor tensions or elastic pressures.

vapor pressure is definitely fixed for every degree of temperature." If, on the other hand, it is meant that the vapor tension represented by 100 per cent. varies according as the air temperature varies, it does not, because of this fact, vary with any greater irregularity than does the absolute humidity which depends upon a varying dew point. Nor does it represent anything that is "unreal," fictitious, problematical or hypothetical about the atmosphere. It represents actual conditions of our surroundings, just as true and just as important to us as absolute humidity; but not the same conditions.

Influence of Relative Humidity upon Health.—If water evaporates into dry air, the elastic force of the vapor tension is increased and the mixed vapor and dry air, if free to expand, as is ordinarily the case in the atmosphere, will occupy a larger space than did the dry air. When, then, the relative humidity is high we inhale at each inspiration slightly less of oxygen than when the relative humidity is lower.¹ The difference is slight, yet we all have noted the influence of muggy weather, not only upon our feelings and moods, but upon our mental and bodily activity, and it does not seem improbable that some of this languor may be due to a slight diminution of the oxygen we breathe.¹⁰

There are, however, more important reasons why the degree of relative humidity is of value to the physician. Since relative humidity is the measure of the evaporating power of the air, it is evident that the expired air will be less rapidly evaporated in the buccal passages when the relative humidity is high than when it is low. Besides CO₂, this vitiated air contains various organic impurities — albuminoid ammonia — which rapidly putrefy, and are in part the cause of the odor of the breath. It is probable that many of them are of a poisonous nature, since an atmosphere which contains simply one per cent. of CO₂ has very little effect upon the animal economy, while an atmosphere into which one per cent. of CO₂ has been passed by breathing is highly injurious.¹¹

Another potent factor in health is perspiration, not merely the sensible but the insensible, which passes off

¹ Since the very meaning of the idea of "saturation" must be a coincidence of dew point with air temperature, we determine our 100 per cent. by regarding the given air temperature as the dew point.

² At 80° F., for example, when the relative humidity is 90 per cent., the volume of mixed air is one-thirty-third greater than that of dry air, but when the relative humidity is 100 per cent., the volume is only one-fiftieth greater. Patients with asthma, advanced lung trouble or heart disease, quickly detect such differences by the increased difficulty and rapidity of breathing when the relative humidity is high. This is an effect not made clear by another way. Air containing vapor is specifically lighter than air when without vapor. The weight of a cubic foot of dry air at 60° F. is 0.06.28 grains, and that of a cubic foot of vapor at 60° F. is 5.77 grains. These conjoined weights would be 542.05 grains, but owing to the enlargement of the air the actual weight is 532.84 grains.

³ In those localities where the air is very rare, this diminution and diminution of oxygen is of course observed in much greater degree, but the involuntary increase in the frequency and deepness of respiration fully compensates for it, since it is not until the oxygen sinks to about 14 per cent. of the air that its full supply can be obtained. The body's own oxygen is very slow indeed, which is the most physiological, complete and satisfactory one (see my paper on The Cause of Sleep, in Boston Medical and Surgical Journal, May 6, 1880), depends upon the diminution of oxygen in the tissues of the body. Hence sleep is a cessation of bodily and mental effort, in order that the body may not be so rapidly oxidized, but may be stored up in the system. Aoxenine will then take place when sufficient oxygen has accumulated for the maintenance of bodily activity.

⁴ The nitrogenous matter accumulated in air may be in the form of dead or living material of various kinds. It is probably in combination with water, since the most hydroscopic substances absorb the most of it. It may be a reason, additional to the possibilities to be given later in this paper, for the unhealthiness of low wet soils with great moisture in the air. See also Report on the Meteorological Conditions and their Relations to the Epidemic Influenza, by N. S. Davis, M.D., LL.D., Journal of the American Medical Association, June 7, 1890, page 517.

at once as watery vapor, containing, like the breath, volatile effete material. In proportion as the evaporation of this perspiration is impeded, these products must be excreted by a vicarious activity of other organs which may resent the imposition, or else will be reabsorbed within the system and cause, not only disagreeable odors, but morbid inactivity of the functions of the sweat glands with a slight pyrexia and mild degree of systemic poisoning. If the relative humidity be such, however, that a rapid evaporation of the perspiration can take place, the temperature of the body may remain very nearly normal, even though the atmospheric heat be extremely high. In this way relative humidity is of value as a regulator of body heat, and becomes of supreme importance in diseases of the heart and kidneys where a free secretion and rapid evaporation from the sweat glands is absolutely necessary, not only to rid the system of its waste products, but to relieve the blood tension and functional activity of the diseased organs.

From these hasty examples, then, it may be seen whether we as physicians ought to neglect data of relative humidity, and whether, as has been claimed by meteorologists, relative humidity "gives results of no practical importance to the invalid."¹²

It is true we can derive little benefit from such data when they are taken apart from temperature; neither, as I shall show later, can we form data of absolute humidity when they are taken apart from the dew point. Temperature should never be omitted from consideration, but temperature is by no means the only factor that we must use; it is only the argument, so to speak, upon which the story of nature is based. Without doubt also we can ill afford, in estimating the clemency or severity of a climate, to omit the daily range of temperature. This range is often considered to depend upon the existing degree of absolute humidity, but absolute humidity is not of spontaneous origin, it is only a single factor, and a mediate one at that, in equalizing temperature. The true cause of the range of temperature lies back of absolute humidity, and depends ultimately upon the united action of many factors — the temperature, the amount of sunshine, the nature of the soil, and the direction, velocity and character of the winds.

To such an extent, however, are the winds modified by variations in the contour of the country, the hills and valleys, the forests, the lay of the land, whether it faces north, south, east or west, and its position in regard to the sea, that any single set of data which depends upon these local peculiarities, and can in a measure, however imperfect, reveal them, should be of especial value to us. Such data are offered in the ratios of vapor tensions, which are of interest and importance. The superficial objection then that has been raised, that relative humidity gives results fickle and of no practical value, because so profoundly influenced by local causes,¹³ should in itself be sufficient warrant for making use of relative humidity, if nothing else even could be adduced in its favor.

But relative humidity has still further interest for us. Suppose that into a warm atmosphere with a dew point nearly identical with the temperature of the air, that is to speak popularly, nearly "saturated" with vapor, there blows a cooler air; the temperature will

¹¹ Where shall we spend our summer? Gen. A. W. Greely. Scribner's Magazine, April, 1880, page 405.

¹² Moisture and Dryness, Chas. Denison, M.D., page 23.

be lowered, but the vapor tension will be reduced in a much greater ratio so that clouds may form, condensation of vapor will take place and dew be deposited, fog appear or rain fall. So, too, if into a cool atmosphere a warm moisture-bearing wind¹⁴ blows, the same cloud formation and aqueous condensation will take place. And not only is the amount of this precipitation important to health, its daily distribution, that is the frequency of dews or storms, is equally of value.¹⁵

So far, however, am I from maintaining that relative humidity is the most important element in estimating the relations of climate to health, or even a more important element than absolute humidity, that I believe the truth to be that we are not only precipitate in ascribing supreme importance to the weather in the maintenance of health, but too fond of generalizing from weather data that are incomplete and therefore misleading. No separate sets of weather, nor all combined, can adequately represent a climate in its health advantages. We must have also data belonging to the geographer, the chemist and the geologist. Life and its influences are not made up of discrete phenomena which can be abstractly discussed apart from every attending circumstance, as can experiments in a physical laboratory, and our daily status is merely the resultant of a vast correlation of conditions which do not and which cannot, in the existing order of affairs, work in any other than a connected manner, dependent the one condition upon the others.

I am not here extolling the advantages of any particular climate or locality, but even were I estimating comparative climatic values, I am sure I should give a place to relative as well as to absolute humidity, and should neglect neither.¹⁶ Nor am I constructing hypotheses to account for the causation of disease. I have no pet theories to weave into the very texture of my thoughts. I am simply searching after truth wherever it may be found, and can therefore accept as a contribution to my knowledge some sets of data which another might regard as a hindrance to the development of his theory.

As has been said by eminent authority,¹⁷ "it is significant of the state of public knowledge in respect to humidity that local writers use and all interested quote that phase of humidity which best suits their line of argument." This is no more applicable to enthusiasts praising pet localities as health resorts than it is to scientists who see confirmation of their theories in everything they agree to look at, but who do not agree to look at everything that is before them.

THE COLORADO ATTEMPT TO ESTIMATE HUMIDITY AND CLIMATE.

Of the theory of humidity devised by Dr. Denison of Colorado¹⁸ there is little to say, but that little should be very emphatic. The maps are inherently pernicious in their influence, although their brilliant

¹⁴ By moisture-bearing winds I do not restrict myself necessarily to winds bearing only vapor — they may bear also liquid water in fine suspension.

¹⁵ On the influence of forests upon evaporation and rain-fall, see B. E. Fornow, Chief of Forestry Division, Special Report in Report of Secretary of Agriculture, Washington, 1889, page 297, et seq.

¹⁶ In the comparative study, however, of the variations in monthly or seasonal influences upon disease where we already know the general agreement of absolute humidity, I regard change in relative humidity as of more importance than change in absolute humidity. See my paper on Phthisis and Pneumonia, Massachusetts Communications Massachusetts Medical Society, 1888, page 272.

¹⁷ Where shall we spend our winter? Gen. A. W. Greely. Scribner's Magazine, October, 1889, page 10.

¹⁸ Moisture and Dryness, a new Annual and Seasonal Climatic Maps of the United States, by Charles Denison, M.D., Denver, Colorado, 1885.

colors and the general air of official meteorological authority give them at first blush an apparent but fictitious value. Denver is made a Garden of Eden, but, unfortunately for science and for accuracy, the rating tables¹⁹ upon which the whole climatic theory depends are made by averaging unlike averages, by adding together such unlike data as averages of relative humidity and cloudiness expressed in per cents, and the product of absolute humidity expressed in tenths of grains, multiplied by an average percentage of relative humidity. The process is much like adding apples to pears, and expressing the sum in terms of plums, and there cannot be the slightest shade of reason why the system or the charts should give the least idea of humidity or of climate.

(To be continued.)

A CASE OF HOMICIDE IN WHICH THE LOCATION OF THE POWDER-BRAND ASSISTED IN ESTABLISHING THE INNOCENCE OF THE ACCUSED.²⁰

BY J. H. HALL, M.D. (HARV.), STERLING, CO.,
President of the Colorado Board of Medical Examiners.

On October 2, 1884, Dr. D. B. M. Fish, one of the medical examiners for the State of Massachusetts, reported, in the Boston *Medical and Surgical Journal*, a series of experiments by which he had determined the cause of the "brand" in gun-shot wounds. He was furthermore able to deduce, from its position, the manner in which the weapon had been held as regards the direction of the hammer. I report to-day, what is, so far as I have been able to learn by correspondence with Dr. Fish and otherwise, the first application of this knowledge to aid in determining the guilt or innocence of one accused of homicide.

In this case, the deceased, H., was shot through the head by M., and at the examination of the body, a scratch appeared upon the throat, from which slight bleeding had taken place. The daily press reported that M. had deliberately cut his victim's throat and then shot him; and, as a consequence, feeling ran high against the accused.

The scratch was proved to have been made by a fancy hair-pin which M. held in his left hand, he having been in the act of wrapping it up for a lady in the store at the time he was called to the door by his assailant. The brand was found entirely below the wound — an almost inexplicable fact to me at first sight. Then it was learned that, although it was dark at the time of the attack by H., several witnesses stated that M. had been in the act of striking over-handed at H. when the noise of the discharge was heard and the flash seen; but none of these witnesses could see the revolver. The evidence from the brand, showing that the weapon was wrong side up at the

¹⁹ A paper read before the Colorado State Medical Society at its Annual Meeting, June 18, 1890.

²⁰ To obtain the "rating mean" of humidity, Dr. Denison estimates the means of the relative humidity records of the Signal Office stations throughout the United States to be 67 per cent.; 67 per cent. of the absolute humidity in tenths of grains is then obtained for every degree of temperature, and the means of Signal Office data of cloudiness are calculated to be 44 per cent. One-half of the sum gives the "rating mean" for a given temperature, ignoring altogether the dew point. Compare with this "rating mean" one third of the sum of the actual records given of the above attributes for any place, and the difference, plus or minus, shows the rate of humidity of that place. The "rating mean" and sensible portion of this measure the rating records of the Signal Office stations read at the Colorado State Medical Society; their distortion is Dr. Denison's idea.

time of discharge, was substantiated by that of the manner in which it had been held in attempting to strike the blow.

It would seem to me that M. never could have been convicted upon the evidence produced, had he deliberately shot his assailant, as the latter had made repeated threats to kill him. However, this evidence, proving absolutely to the jury, as they have since informed me, that M. intended only to strike H. and not to kill him, and very adroitly handled by the attorney for the defence, Mr. Charles L. Allen, of Sterling, Col., assisted materially in making the acquittal a comparatively easy matter, in spite of the fact that the three attorneys for the prosecution attempted to prove that this evidence was of no value whatever. At the trial, several targets showing the location of the brand, with the different positions of the revolver, were shown. There was no evidence introduced in opposition, as the prosecution destroyed the targets they had prepared, for the reason that they were even stronger evidence than those shown by me.

The cause of this phenomenon is briefly this: the point of support of the revolver being below the line of application of the force generated by the burning powder, this force tends to cause the weapon to revolve about the point of support. The gases which impel the ball, being necessarily behind it, follow the new direction of the barrel after the ball has left it, and hence strike above the bullet-hole or to one side or below, as the case may be. In other words, the kick of the weapon does it. The powder stain and smutting may show all about the wound in some cases, but the brand, if distinctly marked, is always found as indicated above. I find that if a revolver be very dirty before the discharge, the old smut is often blown out in front of the ball, and stains on all sides, and thus obscures the point at issue. As proof of this explanation, Dr. Fish shows that, if the pistol be held in a vice, the brand is equally distributed about the bullet-hole, regardless of the position of the weapon, for here there can be no recoil. At a distance of a foot or more, the brand is commonly indistinct or absent. With a Winchester rifle (40, 82, 260), the brand shows very slightly above the wound; and with the left barrel of a No. 10 Colt shotgun, above and to the left. Here, of course, the line of application of the force passes much nearer the point of support.

It was objected, in this case, that M. might have been in the act of bringing his revolver "down to a drop," as is done by many in the West. Target No. 3 (shown when the article was read) made in this manner, effectually disposes of this idea, as it coincides precisely with the others. It is possible that the weapon might be moved with such rapidity that the brand would appear on the other side of the bullet-hole, being carried by, as it were, but certainly not with the ordinary speed of the hand in such a manner of shooting.

Two matters I wish to mention further. I had the targets prepared by Mr. William H. Gleason, under my direction, before telling him of the object in view, that the jury might not believe that the result was modified by my own shooting. I also made at the examination, for exhibition in court, a drawing of the wound, but would, under similar circumstances in future, recommend that it be photographed.

While, as Dr. Fish states, it would be possible to make a pistol with the centre of gravity in such a

place that this rule would be reversed, in point of fact, he states, none are so made; so that the rule applies universally.

REPORT OF PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M.D.,
Instructor in Gynecology, Harvard Medical School.

EFFECT OF THE INFLUENZA ON DISEASE OF THE FEMALE GENITAL ORGANS.

GOTTSCHALK¹ is able from cases which he observed in his own practice, to verify Biermer's statement that, as a result of the influenza, metrorrhagia sometimes occurred, and in cases of amenorrhoea menstruation was re-established.

In four cases, the bleeding occurred either on the first or second day of the disease, was quite profuse, accompanied by backache, and, in two cases, with a frequent desire to urinate. The hemorrhage lasted five to eight days. Examination showed a marked swelling of the uterus and a well-defined softening of the walls, so that they suggested the softening of pregnancy. The mucous membrane was extremely sensitive to the passage of the sound, and softened, but without roughness. The canal was lengthened from one to one and a half centimetres.

The author considers these hemorrhages as caused by an acute inflammation of the uterine mucous membrane, and not of reflex origin from the appendages. As proof of this, he cites a case where, in April, 1889, he had removed the appendages, and the patient had not menstruated since. She came down with the influenza on December 17th, and immediately was taken with uterine hemorrhage, which lasted as long as in the other three cases.

Gottschalk found that pregnant women were as susceptible to the influenza as non-pregnant women. In two cases abortion followed; once at the third month, and once at the fourth. One woman, in the ninth month, had pains for four days, and the os uteri dilated so as to easily admit two fingers, but the pains ceased with the recovery from the influenza. The author thinks that in these last cases an acute inflammation of the uterine mucous membrane or the decidua was present, which, in the first half of pregnancy, easily results in abortion.

Dr. R. Müller gives, in this article² the results of his experience on this subject, from the study of fifty-one cases. His attention was drawn to the occurrence of hemorrhages from the genitals, and his conclusion is that the influenza had a direct causal effect in their production. The flowing occurred during the intermenstrual period, usually in the very first days of the influenza, and was, as a rule, long continued and stubborn to treatment. In those cases which had been previously healthy as regards the genital organs, the flowing came on without subjective symptoms. In those, on the other hand, which had been under treatment for trouble with the sexual apparatus, there were pain in the small of the back, desire to urinate, and a generally worse condition of the old trouble. In both classes of cases he found increased temperature of the vagina, swelling of the cervix and of the uterus, and increased sensitiveness of the latter. The pain, on the gentlest palpation, was often intense. Only once was any trouble found with the appendages.

¹ Cent. für Gyn., No. 3, 1890.

² Cent. für Gyn., No. 17, 1890.

Of the fifty-one cases of women affected with influenza under the author's observation, three were pregnant. Of the remaining forty-eight, forty-five suffered from metrorrhagia. Of the three which did not, one was a girl of sixteen, who had menstruated only a few times, and then only for a day at intervals of two to three months; another was a young woman who had given birth to a child twelve weeks before, and was nursing it. In her case a very profuse leucorrhœa came on, which ceased as soon as the influenza was over. Of the three women who were pregnant, in two it was interrupted; one at eight weeks, the other in the eighth month.

CHANGES IN THE ENDOMETRIUM IN CASES OF CARCINOMA OF THE CERVIX.

While it is the duty of the surgeon in cases of malignant new growths to save the patient from certain death by a radical extirpation of the disease, the ideal of operative treatment is complete restoration to health with preservation of normal condition and function of the parts.

These considerations are of importance in beginning cancer of the cervix. The question has been much discussed whether a total extirpation of the uterus is necessary, or whether in the very earliest stages of the disease a supra-vaginal amputation of the cervical portion suffices to effect a cure. An important factor in the decision of such a question is the statement of Abel that, in a large number of cases of cancer of the cervix, the mucous membrane of the body has undergone sarcomatous degeneration. Out of seven cases he found three which were sarcomatous. If this proportion should hold, the question of choice of operation would be superfluous.

To determine the truth of these observations, E. Saurenhaus³ has examined fifty uteri which had been removed for diseases of the cervix and vaginal portion. The histories of the fifty cases are briefly given with the macro- and micro-scopical changes, with in general the following conclusions:

As a negative result, in not a single case was an endometrium found which at all approached the normal. In many cases even the muscular structure showed changes which were probably due to the chronic irritation of the cancer, changes which corresponded to those in chronic infarction of the uterus.

In general they could be divided into two classes, those principally in older women at the time of, or after the menopause, which showed atrophy of the mucosa, and those in younger women which showed a thickening and increase of glands, interglandular substance, or both. For the details of the changes the original article should be studied. The important conclusion is stated that the changes in the endometrium in these cases differ in no respect from those glandular and cell changes which occur in every case of simple endometritis, and give no ground for any suspicion of sarcomatous degeneration.

Rüge as a result of long years of observation has come to the same conclusion.

THE UTERINE MUCOUS MEMBRANE DURING AND AFTER MENSTRUATION.

V. Kahlen⁴ considers that the different opinions with regard to the conduct of the uterine mucosa dur-

ing and after menstruation arise from faulty methods of examination. He asserts that the question of the desquamation of the superficial epithelium can only be decided from carefully imbedded preparations.

He has made his studies from specimens fresh from the cadaver, hardened in Müller's fluid and imbedded in celloidin. According to his investigations, the epithelium is always for the greater part thrown off. The presence of epithelium and tissue from the mucous membrane in the middle of blood-clots occurring during life proves that such changes are not due to post-mortem degeneration. Not alone is the superficial epithelium thrown off, but also a great part of the mucous membrane which is filled with blood. The desquamation does not all occur at the beginning of menstruation, and there may be numerous portions intact even towards the end, facts which explain conflicting views. The escape of blood results from the throwing off of the mucous membrane, but whether it occurs per rhexin or per diapedesin, v. Kahlen's investigations furnish no proof. There was no small cell infiltration of the tissue, nor any enlargement of the gland cells.

Examination of the uterine mucous membrane after menstruation showed invariably desquamation of the upper layers of the mucous membrane, and an increase in the size and number of the blood-vessels.

ELECTRICAL TREATMENT OF UTERINE FIBROIDS.

Plicque⁵ lays especial emphasis on the following points in A postoli's method of the treatment of fibroids. One should never exceed at the first treatment forty to fifty milliamperes; at subsequent seances the intensity can be carried quite rapidly to eighty and one hundred, and even more if improvement does not begin. If necessary do not hesitate to use electricity during hemorrhage. If the patient has to work, do not give more than one treatment a week. The negative galvano-cauterization is especially indicated in cases of fibroids complicated with amenorrhœa, dysmenorrhœa, or atresia of the cervical canal. With the negative pole the intensity should be less, and the application shorter.

Galvano-puncture is a last resort for fibroids which are especially stubborn to electrical treatment. In these cases it is well to begin with thirty to forty milliamperes and very gradually increase to fifty or sixty. Especially sensitive patients should be anesthetized. Metrorrhagia is the symptom most easily relieved, and peri-uterine inflammations usually show rapid improvement, while reduction in the size of the tumor is sometimes very difficult to secure. In fortunate cases a reduction of a quarter to a third may be obtained by the galvano-cauterization and still more with the galvano-puncture.

NEW OPERATION FOR UTERINE MYOMATA.

Dr. G. R. Fowler⁶ describes a new operation for the cure of uterine myomata, which he calls intra-capsular sloughing through an abdominal incision. He was led to apply it as a definite method of cure through an accidental experience. In attempting the removal of the ovaries in a case of a large fibroid, they were found to be so bound down as to preclude the possibility of their removal, and in the course of the operation the tumor was wounded. The hemorrhage

³ Zeits. für Geb. und Gyn., xvii Band Heft, 1880.
⁴ Beiträge für Geb. und Gyn., 1889.

⁵ Gaz. des Hôpitaux, November 16, 1889.
⁶ New York Medical Journal, June 7, 1890.

which was persistent was only checked by the use of the thermo-cautery. The abdominal wound was left open, and the process of sloughing initiated by the cautery did not cease until complete intra-capsular separation of the tumor had taken place and the broken down mass had been extruded through the abdominal opening, which process was completed and the wound perfectly healed at the end of six weeks.

Encouraged by this experience Dr. Fowler followed the same course in three other cases which were suitable with complete success. In no case was there any suspicion of sepsis during the course of the treatment.

ELECTRICITY IN CHRONIC PELVIC INFLAMMATORY DISEASE.

Apostoli and his followers have claimed that cases of salpingo-ovaritis can be cured by electricity. In his own words: "It is sovereign in catarrhal salpingitis, only calmative in tubercular salpingo-ovaritis, and in certain pus tubes may be of great service." These claims to the curative value of electricity in these cases, Dr. Baldy⁷ considers extravagant, and in the article under consideration gives his reasons. The salient points are as follows: First, it is evident from Apostoli's description of cases treated, that by cure Apostoli meant that he had cured the symptoms, but not the organic lesions, and his account of what he found at the final examination showed marked organic changes. Some of the disciples of Apostoli go farther than their master, and claim the absorption of exudations and adhesions.

Second, Dr. Baldy has had opportunity to follow many cases very carefully during electrical treatment, and to examine the patients during the continuance and to the end, and to see many of them after they had been pronounced cured, or had ceased to come for treatment. He says, "In all this time I have failed to observe a single cure of the disease." He has observed relief in some cases, but even that has not been permanent, and on the other hand, he has seen patients made worse by the treatment.

After a detailed history of one typical case where electricity was faithfully tried and failed and the patient finally came to operation, Dr. Baldy gives his theory of what electricity does accomplish. He says: "Electricity properly and carefully applied will in time relieve the pain of the pelvic peritonitis, but under no circumstances can it influence for the better the resultant chronic adherent salpingitis of the original attack. Electricity is a particularly slow method of giving temporary relief, and if the physician wishes to cure the patient permanently, he must remove the uterine appendages." This, of course, applies only to a small proportion of the cases of chronic adherent salpingitis; the majority can, with ordinary hygienic and dietetic care combined with slight medication from time to time, live a comfortable life.

In conclusion, he says that the place he gives electricity is simply that of a therapeutic agent which will mitigate, but which will never cure. He classes it with glycerine tampons, hot water injections, purgatives, etc., and considers it the least valuable of them.

THE ULTIMATE RESULTS OF LAPAROTOMY FOR THE REMOVAL OF DISEASED APPENDAGES.

Dr. H. C. Coe,⁸ in this article, considers the im-

portant question of the condition of patients who have been the subject of laparotomy for diseased appendages, at a period of one, two or five years after recovery from the operation. The permanent ill-effects which may follow, he classes under two heads, physical and psychical.

As regards the psychoses, some competent observers hold that there is a direct relation between the operation and the subsequent mental aberration which sometimes occurs.

The physical results may be general or local. The general disturbances are the various neuroses, circulatory abnormalities, such as true cerebral hyperæmia, and various visceral disturbances.

He calls especial attention to the local or intrapelvic complications, and considers that these are due to indurations or adhesions which may have existed before the operation, or may be the result of localized peritonitis following it. If pre-existing and separated at the time of operating, they are very apt to reform. As regards new adhesions forming, as a result of localized peritonitis, this must be common, and the author considers that as yet we possess no sure means of avoiding them.

He gives the histories of eight of his own cases in which the patient was either no better, or decidedly worse, after the operation. He says, "If, with my limited experience, I have observed so considerable a proportion in which laparotomy is not followed by permanent benefit, at least as far as regards the relief of pain, those operators, who number their cases by hundreds, could, if they would, add much to our knowledge in this direction."

Reports of Societies.

NEW HAMPSHIRE MEDICAL SOCIETY.

REPORT of the Ninety-ninth Anniversary, held at Concord, N. H., June 16 and 17, 1890.

After the routine business of the Society was attended to, the first paper read was by DR. GRANVILLE P. CONN, of Concord, N. H., the subject being

RAILWAY HYGIENE.

He says: As an illustration of the fact that the public are becoming critical on this subject, I will quote from the report of the Railroad Commissioners of the State of Massachusetts, for the year 1889:

"One of the crying evils of railroad travel at the present time is foul air. The amount of air-space in a car is very small, considering the number of people occupying the car; and if no fresh air was admitted, would be used up in a few minutes. . . . Death from burning is the most horrible death a man can suffer; and it is on account of the torture connected with it, rather than its frequency, that we urge so strongly the adoption of locomotive steam-heating systems. It is certain that in railway travel much more of life has been destroyed by poor ventilation of cars than by fire. . . . On many roads the ventilation of cars is unwarrantably neglected, to the injury of their business as well as to the injury of the health of passengers."

Such conditions as might give rise to the development of zymotic disease should not be allowed to exist on lands owned and controlled by corporations, any

⁷ Medical News, March 22, 1890.

⁸ Medical Record, April 19, 1890.

more than about the premises of the individual. It is difficult to deal with corporations, however, in regard to these matters, as there is no well-defined department with which to confer, and hence no systematic supervision over them.

At present, train-men give little or no attention to the atmospheric conditions that obtain in a car. They should have plain, comprehensive instructions on matters of this kind; and I hope it will not be very long before something of the kind will be published in pamphlet form, after the style of the series of health-primers which have developed interest in hygiene and sanitation.

At some points, the boom that is made in making a place for invalids fills the cars with many people with positive evidence of phthisis or syphilis. If catering to individuals is to be indulged, lines running to such resorts should set apart an invalid's car.

Even the Pullman and the boudoir car are often unclean and unventilated, and have filthy closets; all of which destroys the prospective comfort of a journey.

Within the last twenty-five or thirty years great advance has been made in the road-bed, cars, stations, locomotive, power-brake, etc.; but in some sections of our country, but little has been done in the advancement of railway surgery, and persons receiving injury from an accident to-day would receive at the hands of the corporation substantially the same treatment as was given twenty years ago. This is creditable neither to the road, people along the line, nor the profession.

DR. WALLACE RUSSELL, of Concord, reported a case of laparotomy:

UNILOCULAR PAPILLOMATOUS CYST OF THE LEFT OVARY.

The woman was a widow, aged forty-six, childless. Seen first, September 18, 1889. Health never equal to average woman; had suffered more the last three years.

Physical Examination.—Facies sallow; respiration short and labored, after walking; pulse weak but regular; no valvular lesions; great weakness generally.

Abdominal Examination.—Dulness in left lumbar, inguinal and suprapubic regions; some ascitic fluid; umbilical measure, thirty-eight inches; no difference in measure of two sides. Internally, found the uterus retroverted and immovable; fundus enlarged; a bloody serous discharge flowing out. The sound seemed to meet with obstruction, but was passed four and a half inches. The same immobility of parts in change of posture as in pelvic peritonitis.

September 22d. A small fibrous polypus was presenting at internal os.

September 23d. The polypus was removed with écraseur.

Patient kept her bed three weeks. Digestion improved; abdominal measure one inch less; pelvic pains relieved. Internal treatment, hot douches, absorbents and alteratives. Urinary analysis gave negative results. Diuretics availed but little.

November 25th. Attempted to shake the furnace; felt something give way near the umbilicus. Peritonitis developed.

From November 30th to December 14th, blood was passed with the stools nearly every day. Measured forty-two inches; as the inflammation subsided, the

ascitic fluid lessened, till she measured thirty-eight inches again.

January 1st. Discovered a cyst. Temperature remained above normal during January. General condition on the retrograde. Steady increase in size, with marked difference in appearance. On consultation, an exploratory incision was advised, as the only means of correct diagnosis. It was thought that the growth was malignant. Patient insisted that any growth should be removed.

February 15th. Dr. Mary Smith, of Boston, operated. A tumor was discovered bound by many adhesions. Sixteen pounds of dark fluid were removed. Evidently there had been a hemorrhage within the cyst. The cyst adhered to omentum, cecum, vermiform appendix, several coils of small intestine, bladder and front walls of uterus, which was pushed over against the rectum. Operation required considerable time; but few ligatures were used. There was considerable oozing from the abraded surfaces. Copious irrigation of boiled water, from 105° to 120°, was used till the water ran clear and the patient's vital forces in a measure restored. Quite a little water was left in the cavity. Glass drainage-tube was inserted, and removed next day. The wall of the cyst was very thin in some places, and contained firm bands in others. Numerous polypi, from half an inch to two and a half inches in length, were clinging to the sac internally.

During the operation, which lasted two hours, some points arose of special interest to me:

When the fluid was withdrawn, the heart's action was stronger, more volume to the pulse. As the operation continued, the pulsations grew more frequent and weak, and at times would lose the radial pulse. Brandy was freely used, but it seemed that the patient must succumb. Immediately after using the hot water, however, the bleeding was checked, and the symptoms of shock, which were present to an alarming extent, were at once relieved by the hot water. What is the action of this hot douching of the abdominal cavity, besides cleansing the parts, and as a haemostatic? Its action is so sudden, it certainly could not be by absorption. Since then, the subject has been ably written upon by Dr. Abbott, of New York, in the April number of the *Obstetric Journal*, and I would call the attention of those who have not read the article to it.

The next day after operation the abdominal cavity was again washed out, with gratifying results; after which the tube was removed and the suture tied.

February 25th. Sutures removed. Healing by first intention. Convalescence was slow, as she had not only to recover from the operation, but from months of weakness previous to the operation. The ice-coil was used to allay pain.

DR. A. H. HARRIMAN, Laconia, reported a case of COMBINED INTRA AND EXTRA TWIN PREGNANCY.

November 23, 1889, I was called to attend Mrs. W., aged thirty-two, who was in labor for the first time. Lying on the bed, her abdomen was unusually large, and presented an appearance I never witnessed before, namely, just above pubes a firm, rounded eminence, which I took for a child's cranium, presented itself, raising the integument and underlying tissue the thickness of one's hand. In the right lumbar region, directly opposite the umbilicus, a smaller part

appeared; and directly above the umbilicus, at the fundus, two still smaller parts, or points, in close proximity were presented. I cannot say positively what these latter parts were, although the parietes were stretched to an enormous thinness. I supposed I had an ordinary case of twin pregnancy to attend.

Labor continued from 10 P.M. in the usual way, until 5 o'clock next morning, when a seven-pound living female infant was born, followed very soon by its placenta and secundines. All pain ceased, but evidently another child, apparently full grown, was in the abdomen.

I saw her about 8 P.M., November 24th, when very strong pains were putting in their work, but after waiting until 2 o'clock, A.M., November 25th, I decided to call assistance. We administered chloroform, and each in turn passed a hand into the uterus, but it was entirely emptied, and, between our hands, in making bi-manual manipulation, we found a child, probably as large as the one born — extra uterine, head above pubes of mother, back to front of mother. The limbs, hands and feet were easily recognized through the intermediate tissues. No signs of life at any time in the extra-uterine child. After recovering from the chloroform very powerful pains followed, which were quelled only with very large doses of opiates. These recurred for eight nights with equal frequency and force, leaving the woman comfortable during the day-time. At the end of twelve days very little pain existed.

The treatment has been entirely expectant, and, aside from these pains, there have been no untoward symptoms. At the end of two weeks a very appreciable diminution in the size of the tumor had occurred. In February, 1890, the tumor was about the size of a large-sized coconut. She has been well since. All knowledge of her condition has been kept from her, owing to over-zealous action on the part of husband and friends.

As near as I can learn, the course of gestation proceeded in a quiet manner, except, about the fourth month, she had considerable pain in her abdomen, and the last eight weeks were painful, and difficulty of locomotion was experienced.

For treatment of these cases I would suggest — in case of rupture or presence of hectic discharge — if all is well and one concludes to operate, do the secondary operation not earlier than the fourth, or better, the sixth month or later.

PROFESSOR C. P. FROST, of Dartmouth Medical College, read a paper on

PTOMAINES.

Definition. — Chemical compounds which are basic in character, and are formed during the putrefaction of organic matter. They may be derived from either animal or vegetable decomposition. Some are poisonous, others are not. All the poisonous products of putrefaction are not ptomaines.

Some of them resemble the vegetable alkaloids very closely in their effects on the animal organism. They are doubtless formed by the agency of bacteria. Different ptomaines are formed by different bacteria. Their formation depends on the condition in which the putrefying material is placed. They are transition products of decomposition, and may have a very brief existence, so that substances highly poisonous at one hour may be entirely harmless the next hour.

Ptomaines are frequently developed in connection with articles of human food, such as milk and its products, fish, etc. The ptomaine tyrotoxin is found in ice-cream — myatotoxin in mussels.

The study of the ptomanies enables us to understand more fully the manner in which micro-organisms cause disease.

It is now too late to question the relation of germs, microbes, etc., to disease as causation agents. Patient research has established that to be true in regard to many diseases; still the question arises, How do these micro-organisms produce disease? Several theorists have proposed to answer this question. First, it was attributed to deoxidation of the blood. Second, the mechanical interference theory — the bacteria causing disease by accumulating in large numbers in important organs, and thus mechanically interrupting their functions. Third, the theory that disease was due to the consumption of the proteids by the bacteria. Fourth, that the bacteria destroy the blood cells, or cause them to disintegrate rapidly. Fifth, that the disease is due to the action of chemical poison, developed by the action of bacteria on the fluids or solids of the body — that is, to the action of ptomaines; this last theory seems at present to be the true one, and capable of being conclusively demonstrated to be correct. Thus we reconcile the views of those who held that disease was due to a chemical poison rather than to a germ, with the views of those who held exclusively to the germ theory.

DR. GEORGE COOK, of Concord, reported

THREE CASES OF SURGERY.

The first, that of a young man, aged twenty-three, admitted into hospital July 2, 1889. Probably injured himself by hard work while young. When fifteen years of age, the right forearm began to pain him. This was followed by swelling. Abscesses formed, which were either opened by surgeons or had opened themselves. He had been in other hospitals and had suffered many things of many doctors.

The palmar aspect of the right forearm was covered by cicatrices. Near median line, two inches from wrist, was an opening from which a piece of bone protruded. A portion of the radius, four inches long and an inch wide, was removed, which evidently had been detached for some time. The wound dressed by drainage-tube and iodoform gauze. July 4th, the tube was removed. July 6th, the wound was nearly healed, and in a few days patient was discharged well.

I have seen the man within a few days. The arm is sound, and he has been able to work every day since. The point of interest is, that we were able to do what nature had been trying to do, namely, to get rid of a fragment of dead bone. When this was done, the patient got well.

The second case was that of a boy, aged seventeen, injured while coupling cars, resulting in a compound comminuted fracture of all the fingers but the little one. The distal ends of the four metacarpal bones were all exposed, the integument on back of hand destroyed up to a line with distal end of metacarpal bone of thumb.

Accident occurred August 13, 1889. Immediately brought to hospital. Little hope was had of saving any of the wounded parts; but, to try to save as much of the hand as possible, the parts were put in as good position as possible and dressed with iodoform gauze,

and hand put into a splint. August 22d, we amputated the distal extremity of metacarpal bone of the thumb and three fingers, and the whole wound was left to granulate. It healed rapidly. September 30th, patient was discharged well.

The delay in operating gave us a chance to save all that could be. The young man has a very useful part of a hand left. With the little finger and the remains of the metacarpal bone of the thumb he can pick up a pin.

The third case, which is one of considerable interest, will be reported later.

DR. W. D. CHASE, of Peterboro, reported a case of DIFFUSE CALCIFICATION OF THE MUSCULAR SYSTEM IN A CASE OF FRACTURE.

A man, aged sixty-three, strictly temperate, on the morning of August 3, 1889, in jumping a distance of about four feet, sustained a severe injury to his left leg, which I found to be a compound fracture of the tibia and fibula just above the malleoli, the tibia protruding half an inch. The bones were brought into apposition, the wound united by a few stitches and adhesive plaster and bandaged with carbolic gauze, and the limb was placed in a splint, the whole kept moist with carbolic acid. The wound united nearly its whole length by first intention. Health of patient good. In about ten days, the new tissue gave way with extensive sloughing of the skin and tissues. A small portion of the upper fragment of the tibia became denuded of the periosteum.

At this time, Dr. G. P. Conn, of Concord, was called in, who, August 17th, excised about half an inch of the tibia a little above where the periosteum was destroyed. Bones were brought into apposition, and limb placed in wire splint and wound washed two or three times daily with a one-four-thousandth solution corrosive chloride. Wound did well, until after about two weeks it ceased to heal and sloughing commenced. In a short time, the whole ankle and the tissues up the limb became boggy. There was now noticed a diffuse calcification of the arteries. This had not been observed before, and we are quite sure had developed since the accident.

Dr. Conn amputated between upper and middle third. The ligatures were tied with difficulty, on account of vessels crumbling; but the vessels were finally secured by including a mass of muscular tissue. Dissection of the ankle showed that not a particle of bony material had been thrown out at the end of the tibia of fibula.

The wound was treated antiseptically. Tonics were given the patient, —syrup of phosphate of iron, quinine and strichnine were prescribed. Delirium developed, and he seemed like one intoxicated; but was soon restored after the stimulants were withdrawn. The wound healed.

During convalescence the arteries became less firm. To-day there is an atheroma of the radial arteries, but cannot find it elsewhere.

The case is of interest from the fact that calcification of the vascular system may, in some instances, account for the non-union of fractures.

DR. L. G. HILL, of Dover: I would like some one to explain why calcification did not go on higher, after the amputation.

DR. CHASE: After amputation, there was no necessity of having new bones, and of course the lime for the formation of new bones was absorbed.

DR. THOMAS HILAND, of Concord: These cases reported by Drs. Cook and Chase illustrate a fact experienced by surgeons; that you have to treat the lower extremities far differently from the hands and arms. In case of injury to the latter, nature will do most of the work of healing without much aid on the part of the surgeon. A wound of the lower extremities is more difficult to heal. This is because the arteries are more in number, and hence the circulation and vitality of the upper extremities are better.

DR. H. K. FAULKNER gave statistics in regard to

THE RECENT EPIDEMIC OF DIPHTHERIA IN KEENE; and the subject of diphtheria was discussed to quite an extent.

DR. I. J. PROUTY, of Keene, opening the discussion, gave his experience during the epidemic: I was called to see a case of a boy about twelve years old. On examination of the throat, I found every evidence of tubercular tonsillitis. Soon after, I was called to see a sister of the boy. In her throat, I found that peculiar dirty-white membrane characteristic of diphtheria, and reported it as such to the Board of Health. In about a week more, a younger sister — a child of three or four years — was taken; and this was a case of tonsillitis nearly as typical as the first. Between two and three weeks, I was called to see the mother; and here again was the peculiar membrane of diphtheria. The question I wish to raise is this: Were these cases all diphtheria, or were they two different cases, — the first and second being tonsillitis, and the third and fourth diphtheria?

Further discussion was had as to what diphtheria is.

PROF. C. P. FROST: I believe there is a specific germ of diphtheria, and without that specific germ we cannot have diphtheria.

DR. E. F. MCQUESTEN, of Nashua, in reference to treatment of the disease said, that he treated diphtheria antiseptically. He had tried tracheotomy and also intubation. Where he had performed tracheotomy, he had lost every case; but the result of intubation was that out of six cases on which he operated, he lost but one. "I have also used the spray; as, of course, the patient can breathe better in moist than dry air."

DR. THOMAS HILAND, of Concord, read an excellent paper on

MEDICAL MEN,

and one worthy of being reported in full, but space forbids more than the following extract:

"If our education was completed when we received the M.D., very imperfect would it be; but I can truly say that, in our Middle and Eastern States, young physicians, and old ones, too, are noted for their development year by year, so that I consider it a great privilege to secure an old gentleman in consultation to guide my youthful powers.

"It would be unreasonable to expect the study of medicine to get rid of all selfishness, all small, mean actions and thoughts; but its tendency is to enoble, and suppress dishonorable words and actions.

"The study of medicine opens to view the whole range of natural sciences, the nature of thoughts and actions, the beginnings of life, the finite and the infinite, and it is not strange that the most noted names in the scientific and literary world are those of physicians, to whose names belong so many honored titles that the modest one of M.D. is forgotten.

"I pity the person who tries to confine his studies and practice to the teachings of one man, however distinguished he may have been, for it dwarfs and narrows. It is the man versed in a variety of ways and means, that shows fertility in resource, that makes his reputation by his own individualism, his own untrammelled genius. Can we search out a single fact, the giving it to our fellow-workers gives us more pleasure than stowing it away for individual use; and he who postpones every joy until the indefinite future forgets that we have only to-day, and that good done to others is reflected."

The subject of the president's address was

INHERITANCE OF DISEASE.

The opinion prevails that diseases are transmitted as an inheritance from generation to generation. This opinion is fallacious. Literature and statistics are wanting. To prove it, there are no positive proofs on either side. There are no principles and laws of heredity whereby we may estimate and measure the probability or possibility of any given condition or disease to any given patient. Generalities and conclusions must be presented rather than particulars of proofs and evidences.

Nature always tends toward perfection of the original plan. She curves it only by force, and is ever vigilant to eradicate perversions and modifications.

Notwithstanding the multiplicity of our ancestry and the complexity of its various lines descending to and meeting in a given individual, the species is preserved according to general plan. Nature never abandons any of its characteristics, either general or particular. No original faculties are lost nor are new ones added, although the original ones may be modified by natural or artificial selection. The development and selection theories are true only in the modification of natural and original traits, qualities, faculties, form and features, not in their destruction or even in their perversion. If imperfections do seem to pass on to one or two generations, the imperfect ones go down before the first epidemic. Nature does not wish their kind reproduced.

Disease is for a purpose. It is the decay and death of the imperfect individual, that the species may advance a step toward perfection. Nature does not perpetuate these imperfections, imbecilities, encumbrances and damnations. It is exactly what she will not do. The attempt, even, is contrary to common sense, contrary to natural law, contrary to divine law, contrary to perfection of the species, contrary to the best interests of the human race, contrary to evidence, and contrary to the facts.

The officers elected for the ensuing year were: Dr. L. B. Howe, Manchester, President; Dr. M. W. Russell, Concord, Vice-President; Dr. G. P. Conn, Concord, Secretary; Dr. D. S. Adams, Manchester, Treasurer.

— The importance of a careful disinfection of the surgeon's hands is expressed by Bergmann in the following words: "Infection by contact with the physicians' hands plays a principal part in the etiology of diseases of wounds, and the much-prized skilful hand of the surgeon may bring the greatest harm with the tenderest touch."

AMERICAN OPHTHALMOLOGICAL SOCIETY.¹

Dr. Howe also read a paper on

LEGISLATION FOR THE PREVENTION OF BLINDNESS.

As nearly one-fifth of all the blind in the various asylums are there because of ophthalmia neonatorum, and as nearly all these cases could be cured if seen in the very first stages of the disease, therefore the writer urged the necessity of requiring nurses to report promptly every such case to some proper medical officer. In other countries stringent regulations have been adopted in this respect concerning the duty of midwives, and it was deemed in every way desirable to obtain here, also, as far as possible, the enactment of a law similar to that recently passed by the legislature of New York. This is as follows:

SECTION 1. Should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant, to report the fact in writing within six hours to the nearest health officer or some legally qualified practitioner of medicine of the city, town or district in which the parents of the infant reside.

SECT. 2. Any failure to comply with the provisions of this Act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

SECT. 3. This Act shall take effect on the first of September, 1880.

PURULENT OPHTHALMIA,

by DR. J. A. ANDREWS, of New York.

It has been claimed that the gonococcus was the cause of gonorrhœa, and that purulent ophthalmia was due to the same cause. The writer had made a number of examinations to see if the gonococcus were always present in these two affections. He had found the gonococcus in all cases of acute urethral gonorrhœa. In one hundred and forty-four cases of chronic urethral gonorrhœa he had found it in one hundred and eight cases. In the purulent ophthalmia of adults the gonococcus was found in all cases. In the purulent ophthalmia of the new-born it was found in all cases, one hundred and twenty-two in number. In the purulent ophthalmia of infants between the ages of two and three months, it was found in three cases out of nine examined. This makes three hundred and sixty-four cases examined, with the discovery of the gonococcus in three hundred and twenty-two. In nearly all cases the staphylococcus pyogenes aureus was also present.

In the treatment of purulent ophthalmia the uninterrupted application of cold washing with a saturated solution of boric acid and the use of a solution of nitrate of silver not exceeding 2% was urged. The solution of nitrate of silver is to be applied once or often during the day, according to the indications. If the discharge is not profuse, once a day is sufficient. If the discharge and swelling increase, the application may be made more frequently. Nitrate of silver is not well borne when there is little inflammation. The writer had found experimentally that a 2% solution of nitrate of silver destroyed the infective properties of the pus in from six to ten seconds.

Dr. Andrews also exhibited a drawing of

CYSTLIKE BODIES OF THE CONJUNCTIVA.

These occurred in a child five years of age, whose mother and brother had had trachoma. The child it-

¹ Report of the Twenty-sixth Annual Meeting, July 16 and 17, 1880. Concluded from page 138 of the Journal.

self had no affection of the cornea or trouble with the eye. The microscope showed that they consisted of hypertrophied conjunctival tissue.

A FORM OF XEROSIS,

by DR. CHARLES W. KOLLOCK, of Charlestown.

The author described a form of disease commonly seen among weak and scrofulous colored children, which differed from xerosis as commonly seen in that the conjunctiva is never contracted; the cornea, although more or less affected, is never destroyed, and, under proper treatment, recovery takes place.

Dr. Kollock also reported

TWO CASES OF GLAUCOMA

presenting certain interesting features. In one case (age fifty years), iridectomy was performed, but the operation was followed by increased tension lasting two days. A four-grain solution of eserine was then instilled every hour. Under this, the tension rapidly fell to normal.

DR. F. W. METTENDORF, of New York, reported a case of

EMBOLISM OF THE UPPER BRANCH OF THE RETINAL ARTERY, WITH NORMAL VISION,

in which, owing to a peculiar anatomical arrangement, the macula lutea was supplied by the lower branch of the retinal artery. In the lower part of the field vision was absent, but in the remaining parts of the field it was normal. The treatment consisted of pressure, massage, and digitalis. Vision is now returning in the lower portion of the field.

A CASE OF RECURRENT IRIDO-CHOROIDO RETINITIS,

by DR. SAMUEL THEOBALD, of Baltimore.

Ida R., aged twenty-five, was seen July 8, 1889. Her general condition was fairly good. There was no evidence of congenital or acquired syphilis. She was suffering from recurrent attacks of inflammation in the left eye, which she said had begun two years before, and had destroyed the sight of that eye six weeks before coming to the hospital. The eye had evidently been the seat of severe irido-choroido retinitis. The right eye showed no signs of disease. Enucleation of the left eye was strongly urged. This was declined. She was put on small doses of iodide of potassium, with instillation of atropia to the affected eye.

December 6th she again came to the hospital, having had an attack of inflammation in the right eye three weeks before. The eye was somewhat improved $V = \frac{15}{100}$. The left eye was at once enucleated, and atropia applied to the right eye. The next day the ophthalmoscope showed that there had been a mild attack of iritis, and slight inflammatory changes could be seen in the retina. Iodide of potassium and biniodide of mercury were ordered, and the eye slowly improved. December 23d $V = \frac{15}{100}$.

January 3, 1890, another attack of inflammation suddenly appeared without apparent cause. $V = \frac{1}{100}$. The iodide was increased to five grains every three hours, and a large blister applied to the nape of the neck. January 8th, vision had improved to $\frac{15}{100}$, but there was evidence of commencing iritis. The iodide was now substituted by hydrarg. biniodide gr. $\frac{1}{2}$, three times a day, and application of atropia to the eye. The eye steadily improved, and by January 28th $V = \frac{15}{100}$. February 11th the inflammation recurred.

By March 10th this attack had been recovered from. Another relapse occurred March 28th. As the attacks seemed to recur with a certain degree of regularity, quinia was tried. Under this there was improvement. May 28th there was a most severe attack. June 13th tension for the first time was found above normal. The condition of the eye steadily grew worse, and June 24th iridectomy was decided upon as a last resort. It was found impossible to grasp the iris with forceps, and, as a result, the intended iridectomy was converted into a simple sclerotomny. The effect of the operation was most satisfactory. July 7th she left the hospital, suffering no pain; but the vitreous was as cloudy as before, and it was impossible to determine that there was even light perception.

Syphilis could be almost certainly excluded in this case. The most probable explanation is that the inflammation was through the medium of the sympathetic or trophic nerves, and was dependent upon pathological changes in the ganglionic changes which have to do with the nutrition of the eye.

A CONTRIBUTION TO OCULAR TUMORS,

by DR. W. H. CARMALT, of New Haven.

Four cases of ocular tumors were reported, two of sarcoma of the conjunctiva and two of glioma. One of the latter was a case of double glioma in an infant a year and a half old. Both eyes were enucleated, and so far there has been no return, a period of one year. In the second case the condition was not diagnosed, as the lens were cataractous and nothing could be seen. Later on there was great pain, and the eye became disorganized and was removed. A year later the child again appeared with the orbit filled with a neoplasm. The condition was then recognized. The growth was thoroughly removed, and the parts cauterized with chloride of zinc. Five months later, just as healing was about completed, indications of cerebral trouble appeared, and in about ten days the child died. At the autopsy a tumor was found occupying the anterior portion of the brain. A second growth was found in the cerebellum on the right side.

DR. R. J. MCKAY, of Wilmington, Del., reported

A CASE OF ORBITAL CELLULITIS.

PROGRESSIVE ASTIGMATISM,

by DR. EDWARD JACKSON, of Philadelphia.

The author reported seventeen cases in which the increase of the astigmatism in hyperopic eyes had made needful a change of the correcting lenses. Such an increase seems to occur in about two per cent. of all cases. It may be due to chronic congestion of the eye from eye-strain, resembling progressive myopia, or to a congenital tendency of the eye to develop thus asymmetrically. The latter mode of origin was pointed to by the blood relationship of several similar cases. Bearing these cases in mind, the surgeon could not promise that the astigmatism of an eye would remain constant, or assume that a colleague had been mistaken, simply because lenses previously ordered by him did not now suit the case.

THREE NOTEWORTHY CASES OF AMETROPIA,

by DR. SAMUEL THEOBALD, Baltimore.

The noteworthy feature in these three cases was the existence in each of so much better near vision than the age and refractive condition of the patient appeared to warrant. In two of them (Case I and

III), it seemed as though the lids were used (as they can be by narrowing the palpebral aperture and altering the corneal curve) to render the retinal images more distinct. In one case (Case II) it was noted that the pupils were exceedingly small. In Case III it is noted that the pupils were not unusually small.

The detailed histories of the three cases were then given:

CASE I. Male, aged fifty, suffering with asthenopia, headache, etc. Had never worn glasses for distant vision, but for near vision he used $+ \frac{1}{2}$'s, with these he read Jaeger No. 1 at eight inches. The ciliary muscle was active. It was found that in the right eye there was H. $\frac{1}{2}$, and in the left, H. $\frac{1}{2}$ with A. $\frac{1}{2}$. With this correction vision, which without glasses was only $\frac{2}{5}$ (?), was brought up to $\frac{2}{2}$.

CASE II. Dr. T., aged fifty-nine, suffered with asthenopia and hyperemia of lids and conjunctiva. The pupils were exceptionally small. For near vision he used $+ \frac{1}{2}$'s reading Jaeger No. 1 with the left eye, and Jaeger No. 2 with right eye. He was found to have in the right eye H. $\frac{1}{2}$ (V. = $\frac{2}{2} +$), and in the left H. $\frac{1}{2}$ (V. = $\frac{2}{2} -$). For near vision the best results were obtained with $+ \frac{1}{2}$'s for right eye, and $+ \frac{1}{2}$'s for left eye.

CASE III. Mrs. R., aged fifty-four, never wore glasses, but had been able to read the small type of a newspaper. Her manifest error of refraction as corrected was right eye + 6 D. cyl. ax. 70° , left eye + 4.25 D. cyl. ax. 110° , and in near vision the addition of 1.50 D. spher. to these cylinders gave the most satisfactory effect.

AN ANALYSIS OF THE OCULAR SYMPTOMS FOUND IN THE THIRD STAGE OF GENERAL PARALYSIS OF THE INSANE,

by DR. CHARLES A. OLIVER, of Philadelphia.

In an analysis of some of the ocular symptoms in this disease, the author, after making thirty-three special observations of the motor, sensory and purely local conditions, arrives at the following summary and conclusions:

(1) The oculo-motor symptoms of the third stage of general paralysis of the insane which consist in varying though marked degrees of loss and enfeeblement of iris response to light-stimulus, accommodative effort and converging power; lessening of ciliary muscle, tone and action; weakening and inefficiency of the extra-ocular muscle motion, all show paretic and palsitic disturbances connected with the oculo-motor apparatus itself, all of greater amount and of more serious consequences than those seen in the same apparatus during the second stage of the disease.

(2) The sensory changes of the third stage of general paralysis of the insane which, though similar to those found in the second stage of the disorder, are so pronounced as to show a semi-atrophic condition of the optic nerve head and a marked reduction in amount of both optic nerve and retinal circulations, with consequent lowering of centric and eccentric vision for both form and color, all indicate a degenerate condition of the sensory portion of the ocular apparatus with impairment of sensory nerve action.

(3) The peculiar local changes seen in these cases, which consist in conditions of the choroid and retina indicative of more pronounced local disturbance and irritation of these tunics than those found in the second stage of the disease, all represent the result of greater

wear and tear given to a more delicate and more greatly weakened organ.

(4) Both the motor symptoms and the sensory changes, as thus described, in the advanced or third stage of general paralysis of the insane furnish, not only evidence of local disturbance of a more pronounced type than those found in the second stage of the disorder, but plainly show themselves as one of the many peripheral expressions of fast approaching degeneration and dissolution of nerve elements, most probably connected with related cortex disintegration and death.

DR. JOHN GREEN, of St. Louis, read a paper entitled

AN ELEMENTARY DISCUSSION OF SOME CASES OF TIPIED SPECTACLE GLASSES.

A NEW OPERATION FOR SYMBLEPHARON

was described by DR. GEORGE C. HARLAN, Philadelphia.

In this case the lower portion of the lid was adherent to the eye-ball, as the result of the inflammation following an injury from molten metal. The lid was first dissected from the eye-ball, and the skin cut through, except at the attachment at each end. A flap of skin of sufficient size was then dissected below and turned up so that the fresh surface was applied to the lid and the skin surface took the place of the conjunctiva. The result had been very satisfactory.

CYST OF THE IRIS FOLLOWING A PENETRATING WOUND AT THE CORNEAL MARGIN WHICH CAUSED SYMPATHETIC NEURO-RETINITIS,

by DRs. S. D. RISLEY and B. ALEX. RANDALL, of Philadelphia.

A boy of ten was struck, on December 12, 1882, by an air-gun dart in the left eye, which penetrated to the lens, and its withdrawal was followed by prolapse of the iris. This being irreducible, was drawn out and excised, and healing resulted with a slightly cicatroid scar. The right eye had been weak and watery, and on January 22d showed distinct neuro-retinitis, and the vision quickly fell from $\frac{2}{2}$ to $\frac{2}{5}$. Under alteratives and atropine he improved until with $+ 2$ vision equalled $\frac{2}{2} +$ on March 17th, and $\frac{2}{2}$ on April 18th. Two months later there was a sudden attack of blindness with an epileptoid seizure. A year later vision with the right eye was $\frac{2}{2}$, and with the left fingers at two feet. In March, 1890, he returned with the left eye red and watery, and with a cyst of the lower part of the iris. Vision nil. Tension slightly diminished. Enucleation was advised. After a delay of two months, during which time the cyst increased in size and vision declined in the right, the eye was enucleated. The microscopic examination has not yet been completed, but there is no sarcoma in the vitreous chamber.

THROMBOSIS OF THE ARTERIA CENTRALIS; CENTRAL VISION UNAFFECTED,

by DR. O. F. WADSWORTH, Boston.

A young woman, aged twenty-four years, had sudden diminution of vision in the left eye. The field was much contracted, but central vision was unaffected. Examination showed plugging of the central artery. The circulation on the macular region was, however, maintained by an anomalous vessel, a retino-ciliary artery.

DR. F. M. WILSON, of Bridgeport, Conn., presented

THREE SPECIMENS OF FILARI OCULI HUMANI.

DR. GEORGE C. HARLAN reported

A CASE OF TEMPORARY PULSATION OF THE RETINAL ARTERIES FOLLOWING THE APPLICATION OF HOMATROPINE.

DR. HARLAN also exhibited

A MODIFICATION OF THE NOTES OPHTHALMOSCOPE.

DR. B. ALEX. RANDALL moved that the Society express its approval of the method of nomenclature of prisms suggested by Dr. W. S. Dennett. This was adopted.

The following officers were elected: President, Dr. Hasket Derby, Boston; Vice-President, Dr. G. C. Harlan, Philadelphia; Secretary and Treasurer, Dr. S. B. St. John, Hartford, Conn.; Corresponding Secretary, Dr. J. S. Prout, Brooklyn.

The following were elected to membership: Dr. A. E. Ewing, St. Louis, Mo.; Dr. Neil J. Hepburn, New York; Dr. Chas. M. Culver, Albany, N. Y.; Dr. Richmond Lennox, Brooklyn; Dr. Frank W. Ring, New York.

The Society then adjourned to meet with the Congress of American Physicians and Surgeons September, 1891.

Recent Literature.

Diseases of Women and Abdominal Surgery. By LAWSON TAIT, F.R.C.S., etc. Vol. I. Philadelphia: Lea Brothers & Co. 1889.

Lawson Tait's writings, whatever may be thought of their medical value, are at least interesting, and the appearance of this, the most extended treatise which he has published, has been awaited with lively anticipation. It is impossible to read any of the author's writings without feeling at the same time pleasure and disappointment: pleasure at the bold, original way in which he treats his subject, and disappointment at the dogmatic way in which he states his views and the rude manner in which he treats those who differ from him.

The present work is no exception to this statement. While by far the most original, in the sense of the most personal work on gynecology with which we are acquainted, it is at the same time marred by the blemish we have spoken of. Opinions on very doubtful points are expressed with a dogmatism, and a contempt for the views of others, which are, to say the least, exasperating.

On examining into the contents of this first volume we find a great deal which is familiar from former publications of the author. His views on the nature of menstruation, his treatise on ectopic gestation, and his book on "Diseases of the Ovaries," are familiar to the profession, and are wholly or in part incorporated in this book. His division of the subject is based on the organs concerned, beginning with the mons veneris, and then considering in turn the vulva, vagina, urethra, bladder, uterus, ligaments, tubes, and ovaries, in this volume, with a promise of diseases of the pelvic bones, liver and gall-bladder, kidneys, spleen, and pan-

creas, colon, rectum, cæcum, and small intestine, and lastly the breast, to be treated of in the next.

It is impossible in the limits of a short review to consider these various subjects in detail. It will suffice to indicate a few of the more important criticisms which have suggested themselves on a careful reading of the book.

As a direct consequence probably of the fact that this work is, as he says in the preface, "the results of his own experiences," there is observable all through a lack of perspective. Certain important subjects are treated of very cursorily, while others, of no greater importance, receive a great deal of attention. Thus, cancer of the uterus has barely five pages given to it, while ectopic pregnancy and pelvic hematocoele are given one hundred. The explanation of this is that Tait does not believe in operating for cancer, on the grounds that the primary mortality must be heavy; that the few cases in which the disease does not return are clearly errors of diagnosis; and that he likes his work to be stable (p. 117). This looks a little like choosing his operations for the sake of the record.

So, too, uterine displacements are passed over with only scanty mention, while the theory of menstruation is treated of at great length.

We are glad to see the diseases of the external genitalia so fully considered. They are, as a rule, unimportant as regards danger to life, but often very important as regards comfort and marital happiness.

His methods of examination are essentially English, and it certainly seems as if no amount of practice could make a bimanual examination with the patient on the side as thorough or as comfortable to the patient as on the back.

He recommends the flap-splitting operation for vesico-vaginal fistula, a form of operation which would seem well adapted for some cases.

Trachelorraphy he scoffs at, and says that "nothing more useless than Emmet's operation has ever been introduced into surgical practice."

His method of dilating the uterus for relief of stricture, straightening the canal in cases of flexion, and for induction of premature labor by continuous elastic pressure for from twenty-four to thirty-six hours with graduated plugs, is no improvement on the rapid dilatation under ether.

A very interesting and valuable feature is the introduction of numerous detailed cases throughout the book. These are graphically told, and serve to emphasize the points of diagnosis and treatment.

As a whole, the book is so suggestive, original, and picturesquely written, that it will well repay perusal, and it will appeal to a larger circle of readers in the profession than the gynecologists alone: surgeons and general practitioners will find much that is interesting and profitable in it, especially as the second volume promises to deal in part with organs which do not belong to women alone. Its appearance will be awaited with interest.

The Anatomy of the Central Nervous Organs in Health and Disease. By DR. H. OBERSTEINER, Prof. (ext.) at the University of Vienna. Translated, with Annotations and Additions, by ALEX. HILL, M.A., M.D., F.R.C.S. With 198 Illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

We are much indebted to Dr. Hill for translating this work, which is of great value to specialists in diseases

of the central nervous system, and to advanced students of its anatomy. The book is a very comprehensive one, but, owing to the good judgment of the author in not giving too much space to details and in avoiding the discussion of vexed questions, it is not very large. Yet it contains not only an account of the architecture of the brain and cord, but a section on methods, and something about diseases of the central nervous system. The discussion of the minute structure of the elements themselves and of the putting together of the finer parts is preceded by a section on morphology, in which the gross appearances are described. Many would probably like a fuller discussion of the convolutions, though we think they would admit that it was well to observe brevity. We are not able to see the force of the distinction which is drawn between variations and anomalies. According to Obersteiner it is not an anomaly for the fissure of Rolando to open into the fissure of Sylvius, but it perhaps is one for it to be interrupted by the uncommon development of a gyrus which is usually present but out of sight. Why one of these conditions is more of an anomaly than the other we fail to see, even if we admit what the author seems to imply, that anomalies, properly speaking, verge on teratological conditions.

The general diagrammatic description of the central nervous system is very satisfactory. The illustrations are good, though perhaps hardly as numerous as could be wished. There is a very good series of representations of sections through the medulla and pons, the position of each of which is marked on a diagram.

The translator, Dr. Hill, has not only turned the work into clear English (although we found a new verb,—to myelinate), but has added several annotations. The ones which please us particularly are those in which the subject is elucidated by references to comparative anatomy; as, for instance, the discussion of the relation of the development of the temporal lobe to the sense of smell in different animals. It happens once or twice that the author and translator do not agree, and in such cases it seems to us that the presentation of discordant views is rather confusing than profitable. Dr. Hill adds a chapter in support of his theory of the rotation of the mammalian brain during its development, which is very plausible, to say the least.

There is a good index. The book is of convenient size, and well printed. T. D.

The Treatment of Internal Derangements of the Knee-Joints by Operation. By HERBERT W. ALLINGHAM, F.R.C.P., Surgeon to the Great Northern Hospital, etc. Cloth. Pages 165. Illustrated. London: J. & A. Churchill. 1889.

The object of the writer has been to call attention to certain affections of the knee, which are little understood, or seldom recognized, and to demonstrate that this articulation may be opened with little danger of serious results in the treatment of these conditions. The "derangements" considered are briefly: displacements of the semilunar cartilages; displacements, injuries or pathological changes in the alar ligaments; mures articulorum. The book is a neatly published, clearly printed volume in which the conditions above enumerated are very fully and accurately described. The work of Mr. Allingham at once attracts attention as being entirely new and original. He has carefully studied a common but obscure class of cases; and his

results seem to furnish a satisfactory means of permanent relief to the unfortunate victims of these lesions, the exact character of which has been so little understood. The monograph is valuable and practical, is well written, and is a work which the physician as well as the surgeon should not fail to read carefully.

A Manual of Instruction in the Principles of Prompt Aid to the Injured, Designed for Military and Civil Use. By ALVAN H. DOTY, M.D., Major and Surgeon, Ninth Regiment, N. G. S. N. Y.; Attending Surgeon to Bellevue Hospital Dispensary, N. Y. Cloth. Pages 224. Illustrated. New York: D. Appleton & Co. 1889.

The aim of the writer has been to produce a book which should be what its title indicates, a manual for the treatment of emergencies especially adapted to the work of ambulance corps. The first sixty-seven pages, devoted to anatomy and physiology, are of little practical value, except perhaps some of the outline cuts of the bones. There are few emergencies where it is necessary to know that "the spleen is a ductless gland weighing eight ounces," etc., and that "its function has not been definitely settled"; or that there "are three kinds of sweet breads." The remainder of the book treats more strictly of the subjects indicated in its title, and while principally a compilation is well written. It, however, presents nothing either in its contents or arrangement which will make this volume superior to a number of excellent manuals already in the hands of the profession and public.

A Manual of Minor Surgery and Bandaging for the Use of House-Surgeons, Dressers and Junior Practitioners. By CHRISTOPHER HEATH, F.R.C.S., Surgeon to University College Hospital, etc. Ninth edition. Cloth. Pages 361. Philadelphia: P. Blakiston, Son & Co. 1889.

This book, since the publication of its first edition in 1861, has become so widely known that a description of its character and arrangement is unnecessary. The present edition is equally satisfactory. Compact in form, neat in appearance, concisely written, systematic, practical and convenient in its arrangement, all essential elements of an ideal manual, are still the characteristic of this well-known work. That it has reached its ninth edition and outlived a score of rival treatises is the best indication of its worth. The present volume is somewhat enlarged, but by minor additions only scattered throughout the work without altering its former arrangement. The part of the book which, if any, is open to criticism is that relating to especial treatment. In many instances the methods described are distinctly English; in all cases good, but not always the most modern and efficient.

Massage Kort Framställning. AF DOUGLAS GRAHAM, M.D., M.M.S.S. Bemyndigad Ofversättning af NILS POSSE, Sjukgymnast, etc. Small 8vo, pp. 119. Lund: C. W. K. Gleerups Förlag.

Although we owe to Sweden the movement cure and Swedish gymnastics, little has been done in that country in the way of massage. Baron Nils Posse has, therefore, translated Dr. Graham's excellent essay in "Wood's Handbook." Of the literary merits of this translation we are hardly competent to judge; but we can felicitate the medical profession in Sweden in having this essay rendered accessible to them; and we can also congratulate Dr. Graham that his work has attained the honor of a translation. P. C. K.

Injuries and Diseases of Nerves, and their Surgical Treatment. By ANTHONY A. BOWLBY, F.R.C.S. Surgical Registrar and Demonstrator of Practical Surgery and Surgical Pathology at St. Bartholomew's Hospital. Cloth, pages 510. Four colored plates and twenty illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

The work is the result of nine years' observation and experience, and is practically a condensation of the Astley Cooper Prize Essay of 1886, with what further knowledge of his subject the writer has derived from three years' additional experience. The data have been collected from clinical observation of large numbers of patients during a long series of years. The introductory chapters treat of the anatomy and physiology of nerves; the changes following their section; degeneration; repair; union by first intention; trophic changes resulting from nerve injury, and the symptoms accompanying such injuries; injuries to special nerves. The subject of nerve sutures is next extensively discussed, and an immediate attempt advised, since in untreated cases a majority result either in non-union or an incomplete one. The subject of secondary suture is also fully considered. The abstracts of fifty cases of nerve suture enable the reader to examine for himself some of the author's reasons for his conclusions. The following chapters discuss the various forms of nerve injuries, namely: contusions; injuries accompanying fractures and dislocations; reflex paralysis; unusual complications, such as epilepsy, chorea or tetanus. The subject is treated at length, and consists chiefly of the abridged clinical histories of especial cases. It contains much valuable data. The remaining portion of the work treats successively of the general treatment of the various abnormal conditions accompanying nerve injuries: neurotomy; neurectomy; nerve stretching, with a discussion of its clinical application; the surgical treatment of neuralgia; non-traumatic neuritis; multiple neuritis; neurroma.

The book is a practical, well-written one, and is especially valuable for the clinical data it contains.

A Treatise on Neuralgia. By E. P. HURD, M.D., Member of the Massachusetts Medical Society, of the Climatological Society, etc.; one of the physicians to the Anna Jaques Hospital, Newburyport, Mass. Detroit, Mich.: George S. Davis. 1890.

This volume of one hundred and fifty pages is published in the paper-covered form which the publishers have made familiar in their series of the "Physician's Leisure Library." Its opening chapter treats of the symptoms and pathogeny of nerve pain; the second classifies the neuralgias, following the scheme of Vauclair. Later ones treat, in more detail, of reflex, toxic and other varieties of the disease; and one chapter is devoted to visceral neuralgias. The concluding chapter, on treatment, is supplemented by a copious appendix, which discusses intelligently and suggestively the large number of remedies, including the newer analgesics, which have been prepared for the relief of the condition, but which, from its length and the wideness of its range, illustrates most vividly the often exceedingly obstinate character of the affection. The volume is dedicated to M. Dujardin-Beaumetz. We can recommend it to the medical practitioner as covering very fairly what is known of the nature and treatment of this most common and distressing affection.

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THE GRAND ARMY MEETING.

BOSTON has just witnessed a memorable sight in the annual gathering of the veterans of the late war. It was an inspiring sight to watch the long lines of men who once wore the army blue. None of the old formations were represented in the line of march, but the formations were based entirely on locality, but still one could find something of the old spirit. If the troops from one State gained a reputation for soldierly bearing and effectiveness, the same spirit could be seen to animate the survivors. But a medical man looks with great curiosity upon the physical traits of this body of men, the majority of whom have already passed the age of active military duty, and the remainder of whom at least border closely upon it. Empty sleeves were frequent, and unsteadiness of gait often betrayed some defect in the lower extremities, but as a body, they seemed in the main a sturdy and well-preserved set of men.

Boston may well be proud of one feature of the day, and that was the ambulance service. Emergency stations were established at frequent intervals along the line of march, ready to render aid to such veterans or others as might need assistance. At each station was placed a man with the red cross insignia, who could give needed aid or summon an ambulance. An emergency hospital was established, where beds, food, nurses and medical relief were ready. The ambulance corps of the two militia brigades volunteered their services for work at the red cross stations, while trained nurses, male and female, were equally ready with an able corps of doctors for any duty that the day or the week might call for. Fortunately the day was cool and cloudy, and the actual number of men who required assistance was comparatively small, though over thirty men were transported to the emergency hospital during the time of the march. These men were most of them of a class who ought never to have turned out. Enfeebled by disease or prostrated temporarily by some digestive disturbance incident to the journey, to the meeting, and irregular diet, they succumbed to the exertion of the march, or rather to

the long standing in line and tedious waiting which seem inevitable in a grand procession.

The veterans ought to feel that if occasional criticisms are made on certain acts of their associations, when it comes to personal care for any unfortunate member the same sympathy exists that was shown during the war, and from present indications is not likely to decrease in the rising generation.

THE RECOGNITION OF EYE-STRAIN BY THE GENERAL PRACTITIONER.

OPHTHALMOLOGISTS have been for some time desirous to secure a more general recognition of eye-strain on the part of the mass of practitioners; but ophthalmology has been so much a *terra incognita* to the average physician, that the subject has been only too generally passed by as a field requiring unusual ability to use the refraction ophthalmoscope, shadow test, etc.

Dr. Edward Jackson has lately read a paper before the county medical society in Philadelphia, in which he very justly says, that, if the general practitioner would search for the symptoms, he could make a probable diagnosis, with fair assurance of success. That this is a fact cannot be doubted, for the condition is well enough marked to be often recognized by the patient himself, without the aid of a medical man. The chief obstacle to the recognition of eye-strain is the fact, that, either the eyes are not considered at all in making up the diagnosis, or preconceived hypotheses as to the causes of the symptoms tend to divert attention from the real cause.

The symptoms in question are often very characteristic, and easily gotten at by ordinary questioning. The first symptom is likely to be temporary impairment of vision, due to a sudden relaxation of the accommodation, when the ciliary muscle has been long overtaxed. The patient notices that print upon which the attention is fixed becomes entirely blurred, but that if he closes his eyes for a moment, or perhaps rubs them, he can read again. The next prominent symptom is headache, which is so commonly associated with eye-strain that it should immediately suggest its presence. In fact, eye-strain enters as a factor into the causation of nearly all headaches not due to pyrexia, toxæmia, or diseases of the brain or its membranes. It often comes on when the eyes are used, and is absent at other times. Headaches in school-children are almost always due to eye-strain; and the headaches of adults which follow travelling, shopping, sight-seeing, or attendance at the church or theatre, are due to eye-strain, although commonly believed by the patients to be due to fatigue, bad air of the auditorium, excitement, and so on. In these cases the location of the headache has some significance. It is generally described as beginning just over the eye, back of it, or through the temples, frequently extending to the occipital region, and sometimes is wholly confined to the occiput. Pain in the vertex is almost never due to eye-strain.

Such cases are often accompanied by chronic inflammation of the margins of the lids, or of recurring conjunctivitis, and repeated stys; such conditions being attributed to repeated colds. It is true in this, as in other morbid conditions, that one or the other of this group of symptoms may be absent; nevertheless, the clinical picture is sufficiently distinct, so that any practitioner should be able to diagnosticate a probable cause without recourse to specially-devised instruments of precision.

MEDICAL NOTES.

— The Berlin International Medical Congress is busily at work. Among the Americans who have read papers are: Dr. V. Y. Bowditch, Boston, on "Galton's Law of Growth"; Dr. Loomis, New York, on Consumption in Hospitals"; Dr. Jacobi, New York, on "Diphtheria in America"; Dr. Marcy, Boston, on "Hernia"; Dr. F. H. Watson, Boston, on "Removal of Intra-Vesical Growth"; Dr. Bradford, Boston, on "Club Foot."

— Dr. Edward C. Passmore, an old New York practitioner, died August 1st. He was born in Dublin, Ireland, in 1813. He was graduated from the Dublin College of Physicians, and was a licentiate of the Dublin College of Surgeons. He came to this country in 1836, soon after graduating, and settled in New York, where he built up a large family practice in the then fashionable district in the vicinity of East Broadway. About 1860 he moved up to Thirty-Fourth Street, and for many years he was a sanitary inspector of the Board of Health; it being only three years ago since he retired from the service of the department. In 1839 he was married, and on June 21st of last year, celebrated his golden wedding. Mrs. Passmore died in February of this year, and only one child, a daughter, survives him. One of his sons, a young physician of promise, died of typhus fever while in the medical service during the late war.

Miscellany.

POSTHUMOUS LABOR.

THE following certainly remarkable case is related in the *Lancet* for July 19, 1890:

"At Moglia, in the province of Mantua, occurred a case of post-mortem delivery in some respects unique. A woman, Lavina Merli by name, subject to chronic epilepsy, had suddenly lapsed into the cataleptic state when in the eighth month of pregnancy. So death-like was the trance that she was certified as dead and ordered to be buried. The coffin containing the unfortunate woman was closed and deposited in the mortuary chapel pending the gravedigger's work, when next morning it was found with the lid raised. The woman's body — now a corpse — was horribly contracted, and, closely pressed between the knees, lay a new-born child, quite dead. The gravedigger and his men, for reasons of their own, kept their discovery a secret and buried the two corpses. The facts, however, leaked out, and the judicial authorities, aided by phy-

sicians from Mantua, at once proceeded to exhume the coffin and examine its contents. A very minute and prolonged inspection was made, with the result that the physicians declared themselves satisfied that the mother was already dead when the child was expelled from the womb. From the position of the bodies and the commencing decomposition in which they were found, taken in connection with other considerations set out at length in the official report, the conclusion was arrived at that the gases, disengaged by the putrefactive process, and seeking an exit, had forced out the fetus; that, in short, the case was one undoubtedly very rare, but by no means unprecedented, in obstetric experience of 'posthumous labor.' The incident, however, has attracted notice beyond the Mantuan province, and medico-legal discussions on its details is yet far from being exhausted. It is asked, not unnaturally, if the woman Merli had really ceased to live, how the coffin-lid came to be even partially raised? She is not by any means the only patient, in catalepsy or 'nona,' who, in quite recent Italian experience, has been certified as dead and treated accordingly; and the anti-cremationists, making the most of such cases, are warning the public how still more slender, in 'apparent death,' would be the chances of escape for Merli and her like, if, instead of the coffin, she had been consigned to the crematorium."

NINETY CASES OF DYSMENORRHEA AND STERILITY TREATED BY RAPID DILATATION OF THE CERVICAL CANAL.

THE following are the figures given by Dr. Townsend in the *Albany Medical Annals* as the result of his experience in the practice of rapid dilatation under complete anaesthesia with rigid antiseptic precautions: Dilatation in virgins for dysmenorrhœa, other means failing, 57; complete cure of dysmenorrhœa, 53; no better, 3; made worse, 1.

Dilatation in married women for dysmenorrhœa and sterility, other means failing, 33; complete cure of dysmenorrhœa, 33; complete cure of sterility, 27; remaining sterile two years or more after operation, 6.

HOW DIPHTHERIA IS SPREAD BY CORPSES.

DR. C. W. CHANCELLOR in a letter to the *Baltimore Sun*, thus graphically sets forth the mischief that may follow the concealment of cases of diphtheria and the permission of public funerals in such cases.

"About the middle of last June a grandchild of Mr. Arthur Thomas of Prospect, Harford County, Md., died in Wilmington, Del., of throat disease. The attending physician, it is stated, refused to give a certificate upon which the body could be removed, but another physician was found who certified that the child died from 'lung trouble,' and upon this the body was received and transported on the 17th of June by the railroad company into this State. Mr. Thomas and his daughter, aged eighteen years, attended the corpse. On June the 18th, after arriving at home, the coffin, an ordinary casket, was opened and the remains viewed by the family, who were thus exposed to the contagion of the disease. Two days after, the daughter who, with her father, had accompanied the corpse from Wilmington to Prospect, was taken sick with diphtheria and died on the 23d of the month. The same day,

namely, the 23d of June, another daughter, aged eleven years, came down with the disease and died on the 30th of the month. In the meantime a third daughter sickened and died on the 6th of July. On the 5th of July, the son, Robert, was taken sick and died three days after with malignant diphtheria. This is quite similar to an occurrence which took place at Zanesville, Ohio, last spring, where many deaths resulted from exposure to a corpse brought from Chicago, and to another where a child died March, 1890, in Montgomery County, Michigan, of diphtheria, was certified by attending physicians to be 'not dangerous to the public health,' and was conveyed to Lapeer County, Michigan, where just one week from the day the coffin was opened and the remains viewed a person who was exposed died from the disease, and many others would probably have been exposed except for the action of the local or county health officer, who warned the neighbors of the danger, and ordered the coffin to be closed and the corpse buried. Such cases show the importance of notice being given promptly to the health authorities of all deaths from contagious or infectious diseases, so that every necessary precaution may be taken to prevent the spread of such diseases. They also emphasize the crime of any misrepresentation being made in a death certificate, and of railroad companies transporting bodies dead of a malignant or dangerous disease."

SOME NEW ADVICE TO THOSE WHO WOULD PRACTICE ANTISEPTIC MIDWIFERY.

A WRITER in the *Journal de Médecine de Paris* humorously "takes off" the practice of some of his contemporaries who would carry antiseptic obstetrics to excess. Under the head of "Counsels of Lucina" (Lucina was the goddess of childbirth), he gives some rather extravagant advice to young practitioners:

"The antisepsis must be complete and absolute, or it is a delusion.

"On rising in the morning, take a full bath of soap and water; the scrubbing should be done in earnest.

"The hairy scalp cannot be too thoroughly clipped or epilated every month, for it has been demonstrated that the hair furnish shelter to quantities of microbes; the same precautions are necessary for the beard and other hairy regions of the body.

"The eye-brows and eyelashes being indispensable to the hygiene of the eyes, should be respected, but they should be well scrubbed every morning with Van Swieten's solution.

"The nasal cavities should be carefully swabbed out; it would even be prudent to stuff them during the day with iodoform gauze; as respiration can go on quite well by the mouth.

"The ears should be carefully douched by a specialist knowing well the direction of the external auditory passage, and it would be well by a Eustachian double-current catheter to wash out the middle ear. The mouth being a cavity frightfully septic, the prudent practitioner will divest it of all useless ornaments. The natural teeth being receptacles and lurking-places of numerous microbes, should be extracted and replaced by artificial teeth, which the physician will wear as little as possible, and only to eat with, or when he goes into society; at other times these little masticatory apparatuses will be kept soaking in a strong carbolic solution.

"It will also be advisable to make every morning a serious laverment of the stomach and rectum, for these cavities breed bacteria, and there is a possibility even of communicating infection by the gases eructated from the stomach.

"The carriage in which the physician visits his patients should every morning be washed inside and out in a full stream of antiseptic water, and the wheels should be well greased with carbolized oil. It will be well to keep the inside of the carriage aseptic by means of a suitable spray-producer which may be made to work automatically in some part of the vehicle.

"The carriage-box should be replaced by a dry stove, which should be always in operation. Whenever the physician has occasion to visit one of his lying-in patients, he shall change his clothes and place those that he has taken off in the stove in question. The same garment should never be worn in the sick-room of two consecutive patients without being disinfected.

"Whenever the physician enters a patient's house, he will have care to demand immediately a pair of slippers, which he will put off on leaving the house; otherwise his boots will become impregnated with a prodigious quantity of microbes. He will also take pains not to shake hands with any one, else he might be infected by the simple fact of contact.

"Whenever a patient has died of any affection sup-

posed to be microbial, the physician will abstain from all medical visits for at least a week, and he cannot do better than pass this time at the top of the tower Eiffel, where no microbes are supposed to live.

"From time to time the physician may dine in town, but he will be served apart on a little table, so as not to be infected by contact with neighbors; and he will take care to eat with his fingers, for the usage of the disinfecting stove has not yet entered into the hygiene of the kitchen, and the knives, forks and spoons may be covered with micro-organisms. He may, however, bring with him his dishes and other implements for eating previously disinfected. He will scrupulously abstain from all food that has not been thoroughly boiled, and for drinks, religiously refrain from everything less aseptic than distilled liquors."

There is much more of the same sort of advice in the article alluded to, but we have given enough to indicate to our readers in what direction the sceptics think antiseptic midwifery is tending.

Microphobia has occasioned a revolt among the surgeons, and we see such excellent teachers, as Professor Leon Le Fort and Armand Després, declare themselves still partisans of the older methods. The latter, in his *Chirurgie Journalière*, under the head of "Surgical Dressings," describes the Listerian method of treating wounds, only to add: "All these minutiae seem to me tedious and puerile; but one thing more is necessary to add, namely, some exorcisms."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 2, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,022,237	907	474	32.56	9.46	3.85	22.55	1.32
Chicago	1,160,000	507	300	41.23	6.65	2.85	29.64	4.75
Philadelphia	1,004,577	414	173	23.76	8.64	3.36	13.20	3.12
Brooklyn	882,407	475	240	32.34	7.14	5.04	21.84	1.47
St. Louis	550,000	—	—	—	—	—	—	—
Baltimore	500,343	208	79	29.76	13.44	3.36	18.72	3.84
Boston	418,110	284	154	36.03	10.50	2.80	31.15	1.40
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	260,000	133	38	17.76	14.80	2.22	6.66	7.10
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	97	48	33.66	5.15	1.03	23.69	8.24
Nashville	68,513	40	13	42.50	5.00	—	38.00	5.00
Charleston	60,145	43	14	16.31	6.39	—	9.32	2.33
Portland	42,000	25	17	40.00	—	—	40.00	—
Woonsocket	81,222	55	45	63.70	—	—	63.70	—
Lowell	73,370	51	37	56.84	7.84	—	52.22	—
Cambridge	67,026	34	26	50.00	5.88	2.94	35.28	2.94
Fall River	64,082	48	32	54.08	8.82	—	49.32	4.16
Lynn	55,200	23	11	26.10	13.05	—	26.10	—
Springfield	41,520	27	15	55.50	3.70	3.70	48.10	—
Lawrence	41,050	30	18	29.19	—	—	26.66	3.33
New Bedford	38,218	23	17	43.47	13.05	—	43.47	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,242	27	19	44.40	—	—	37.03	3.70
Chelsea	28,781	18	12	5.55	16.66	—	57.12	—
Haverhill	27,440	14	8	57.12	—	—	—	—
Taunton	26,544	20	13	30.00	5.00	—	30.00	—
Gloucester	24,004	9	3	11.11	—	11.11	—	—
Newton	22,011	—	—	—	—	—	—	—
Malden	20,615	8	4	12.50	25.00	—	12.50	—
Waltham	17,998	4	2	50.00	—	—	50.00	—
Fitchburg	17,304	—	—	—	—	—	—	—
Attleborough	15,954	—	—	—	—	—	—	—
Pittsfield	15,762	6	4	66.66	—	—	50.00	—
Quincy	14,114	14	10	35.70	—	—	35.70	—
Newburyport	13,915	—	—	—	—	—	—	—
Woburn	13,089	11	6	27.27	9.09	—	27.27	—

Deaths reported 3,556; under five years of age 1,841: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fever) 1,218; consumption 302, lung diseases 168, diarrhoeal diseases 887, diphtheria and croup 110, typhoid fever 87, whooping-cough 54, malarial fever 25, measles 17, cerebro-spinal meningitis 16, scarlet fever 16, pulmonary fever 4, erysipelas 3.

From whooping-cough, New York 15, Philadelphia and Brooklyn 11 each, Chicago 8, Baltimore, Lowell and Cambridge 2 each, Boston, Nashville and Salera 1 each. From malarial fevers, New Orleans 10, Baltimore 6, New York 3, Philadelphia, Brooklyn and Charleston 2 each. From measles, New York 14, Brooklyn, Boston and Lawrence, 1 each. From cerebro-spinal meningitis, New York 7, Chicago 5, Philadelphia 2, Brooklyn and Cambridge 1 each. From scarlet fever, New York, Chicago

and Brooklyn 4 each, Philadelphia and Chelsea 1 each. From periperal fever, Chicago 3, Philadelphia, 1. From erysipelas, New York, Chicago and Washington 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending July 18th, the death-rate was 18.0: deaths reported 3,351: acute diseases of the respiratory organs (London) 216, diarrhoea 172, measles 159, scarlet fever 55, whooping-cough 86, diphtheria 31, fever 23.

The death-rates ranged from 11.9 in Derby to 26.2 in Manchester: Birmingham 16.9, Brighton 15.2, Hull 12.4, Leeds 21.6, Leicester 19.6, Liverpool 19.4, London 17.9, Newcastle-on-Tyne 21.8, Nottingham 15.6, Sheffield 21.5, Sunderland, 18.0.

In Edinburgh 16.7, Glasgow 18.9, Dublin 20.7.

The meteorological record for the week ending Aug. 2, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps: -

Week ending	Barom- eter.	Thermometer.	Relative Humidity.	Direction of Wind.	Velocity of Wind.	State of Weather.*	Rainfall.	
Saturday, Aug. 2, 1890.								
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.
Sunday....27	30.05	71.0	83.0	70.0	85	60	S.W.	F.
Monday....28	30.19	73.0	80.0	68.0	74	67	W.	F.
Tuesday....29	30.18	70.0	73.0	67.0	79	85	E.	C.
Wednesday....30	30.02	81.0	93.0	69.0	78	69	S.W.	R.
Thursday....31	29.87	85.0	96.0	76.0	82	85	W.	O.
Friday....1	30.02	70.0	74.0	65.0	84	80	N.E.	O.
Saturday....2	30.19	69.0	75.0	64.0	62	62	S.E.	C.
Mean for Week.								

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 9, 1890.

WALES, F. S., medical director, ordered in charge of the Museum of Hygiene, Washington, D. C.

BRIGHT, GEORGE A., surgeon, ordered to the U. S. S. "Constitution."

MACKIE, B. S., surgeon, detached from the U. S. S. "Constellation," and to Naval Hospital, Philadelphia, for medical treatment.

DEER, E. Z., surgeon, ordered to the U. S. S. "Minnesota."

WAGGON, J. R., surgeon, detached from the U. S. S. "Minnesota," and ordered to the U. S. S. "Kearsarge."

MOORE, A. M., surgeon, detached from the U. S. S. "Kearsarge," and granted three months' sick leave.

SOCIETY NOTICE.

AMERICAN DERMATOLOGICAL ASSOCIATION. — The Fourteenth Annual Meeting will be held at Richfield Springs, New York, September 2, 3 and 4, 1890.

The following papers will be read:

First Day. — Morning session at 10.30 A. M. Address by the President, Dr. P. A. Morrow. Observations on Prurigo, Clinical and Pathological, Dr. R. W. Taylor. Prurigo in the Negro, Dr. R. E. Morrison. A Clinical Study of Pruritus Hiemalis — Winter Itch, Frost Itch, etc., Dr. W. T. Corlett. Study on Pruritus, Dr. E. B. Bronson. Afternoon session at 3.30 P. M. Note: Read, two cases, probably "Cancer en Crustae," Dr. J. S. Hyatt. A Case of Arthropathic Mucous of Striata following Typhoid Fever, Dr. F. J. Sheppard. Electrolysis in the Treatment of Lupus Vulgaris, Dr. G. T. Jackson.

Second Day. — Wednesday, September 3, 1890. Immigrant Dermatoses, Dr. J. C. White. Notes on some Rare Cases, Dr. G. H. Fox. Cases of Cutaneous Tuberculosis, with Histological Studies, Dr. J. T. Bowen. Cases from the Hopkins Hospital Clinics, Dr. R. B. Morrison, Plica, Dr. H. W. Stelwagon. Treatment of Erysipelas, Dr. C. W. Allen.

Third Day. — Thursday, September 4, 1890. Remarks on the Treatment of Dermatitis Herpetiformis, Dr. L. A. Duhring. Treatment of Ringworm and Favus of the Scalp, Dr. H. W. Stelwagon. Note on Phimosis in Dermatology, Dr. H. G. Kutz. Report of a Friend, Dr. C. W. Allen.

Retirement of old and induction of newly elected officers. Adjournment.

OBITUARY. JOHN NELSON BORLAND, M.D.

Dr. Borland, who died at Boston, August 10, 1890, was born in Boston in 1828. Graduating from Yale College, in 1847, he studied medicine in New Haven Street Medical School. Dr. Borland received his medical degree from Harvard University in 1850, and became a house-officer in the Massachusetts General Hospital. He was appointed one of the first visiting physicians of the Boston City Hospital. From 1859 to 1873, he was Instructor of Clinical Medicine in the Medical School of Harvard University. Dr. Borland was well known and greatly beloved in Boston. His cordiality of manner, his fine presence, his genial disposition made him a favorite wherever and in whatever relation his influence was exerted. He was a skillful practitioner, and his social gifts, his gentle sympathy endeared him to his patients, whether rich or poor. He was an active member of Boston medical societies, and a devoted student of his profession. His memory will nowhere be more affectionately recalled than at Nahant, among his old friends and summer visitors he practised in the most serviceable and conscientious manner for a long series of years. Dr. Borland retired from practice in 1878, and since that time has resided at New London, Conn. He died after a long illness, and leaves behind him the example of an honored physician, an upright gentleman and a loyal friend.

BOOKS AND PAMPHLETS RECEIVED.

Dosimetry in Colorado. By Dr. J. E. MacNeill, Denver, Col. 1890.

Twenty-first Annual Report of the Massachusetts Bureau of Statistics of Labor for 1889.

A Successful Case of Nephrectomy. By George Ben. Johnston, M.D., Richmond, Va. Reprint. 1890.

Twenty-ninth Annual Report of the Cincinnati Hospital, for the fiscal year ending December 31, 1889.

Five Cases of Vaginal Hysterectomy for Malignant Disease of the Uterus: All Recovered. By W. F. McNutt, M.D., L.R.C.P., Ed., etc. Reprint. 1890.

What is the Present Medico-Legal Status of the Abdominal Surgeon? By William Warren Potter, M.D., Buffalo, N. Y. Reprint. New York: William Wood & Co. 1890.

Reformation in the Practice of Medicine by the Dosimetric Method of Practice, or the Method of Small Doses of the Active Principles of Plants, Mathematically Measured and Scientifically Adapted to the Varied Abnormal Conditions. By Dr. J. E. MacNeill, Denver, Col. With Biographical Sketch of Dr. Ad. Burggraeve. Reprint. 1889.

Original Articles.

SOME ASPECTS OF OUR MEDICAL SERVICE
IN THE WAR OF THE REBELLION.¹

BY GEORGE H. LYMAN, M.D., BOSTON.

BEFORE proceeding, a few words seem necessary as to this newly-created addition to the regular army, of medical inspectors. It was a novelty in the medical service, organized in the hope that it would add very much to its general efficiency. It was a staff corps, assigned to different departments as occasion might require, for longer or shorter periods of inspection, and not reporting to department commanders but to Washington direct. Though not under department control, it should be added that it invariably met with the cordial co-operation and assistance of the generals in command. It was given the increased grade that there might be no longer question of its authority. One-half its members were chosen from recent civil appointments, and one-half from the staff of the regular army, regardless of their previous relative rank. This was a grievance to the old Regulars, to which they could never reconcile themselves.

It seemed impossible for those who had grown old under the former régime of promotion by seniority to realize the changed circumstances, — that this was essentially a war of volunteers, on an unprecedented scale. They could not resist the idea that these additions to the corps from *civil* life were purely political appointments for the attainment of soft places and promotion.² If this was a hardship to a few, it was a necessary incident to the enormous expansion of the army, the exigencies compelling an entire revolution in the conditions required for our small normal peace establishment. They ignored the fact, that, like themselves, we had entered the service after examination by a board of their own number and with our commissions from the President.

Many a senior of the old army, was, as you know, required to serve under some one his junior at West Point, or even under some civilian general in his first uniform. McClellan, Meade, Hooker, Burnside, Warren, St. George Cooke, Franklin, Butler, Banks, Logan, Sheridan, and so on, need only be cited as examples on both sides; and in the medical service, the office of surgeon-general, even, was filled, as we have already seen, at very early period (April, 1862) by a young assistant surgeon of the army promoted at one jump over his seniors, half a dozen of whom were in the service before he was born.³

That all the results hoped for from this corps of inspectors were not fully realized, may be frankly con-

¹ Abstract of a paper read before the Massachusetts Historical Society, May 10, 1864, (reprinted from page 119 of the Journal.)

² I was constantly reminded of this misconception, that I was aiming for the surgeon-general's position, forgetful that, by terms of the law, these appointments ceased with cessation of the war.

³ Since the war various changes have been made in the law regulating promotion. The act of July 28, 1862, directs that heads of departments "shall make it their duty to see that all officers in the corps to which they belong . . . shall be promoted by merit, and the corps gives no claim. The grade of brigadier was established as a new office, for the very purpose of enabling selection of the most competent men, regardless of their previous rank. Hammond, an assistant surgeon, became general brigadier, captain, quartermaster-general; and similar selections followed, soon, or later, in the engineer, commissary and pay departments; while the superseding of their seniors by McClellan, Grant, Sheridan, Meade, McDowell, etc., are familiar to all. To quote from one who has been in some thirty years in the service: "In my rule, the law has been broken short prospectively and extensively; and experience shows that such men have but rarely the zeal or capacity to carry on a high grade of administrative work. Speaking generally, they are too old and have been too long subordinate, to originate it."

ceded. That it accomplished much cannot be disputed: that it did not accomplish more was due less to its members than to other causes, some of which may be found in this paper.

The duties, though fairly defined in a general way by the law, were, in detail, left very much to the interpretation of the surgeon-general, without whose hearty co-operation and support they could easily be rendered nugatory, when treading too hard on old traditions, gouty toes, pet plans, or political influences, which an inspector, even if so disposed, had no time to combat.⁴

The inspectors were required to report monthly upon every hospital in their department; to keep posted on the available supplies in the depots; to investigate reports as to inefficiency of medical officers; to discharge, on proper evidence of disability, those who required it; to examine and recommend proper sites for hospitals; to see that hospital boats and trains were properly managed; to carefully inspect camp police; in a word, to be eyes and ears for the surgeon-general and those in command of armies.⁵ The amount of travel, the labor, and responsibility for accurate reports, involving sometimes the character of subordinates, who, if reprimanded or dismissed, were, with their more or less large circle of influential friends, not slow to make their enmity known and felt, made the position no sinecure. Whether from the increased rank and unusual powers given by the law creating the grade, jealousy of supervision, or interference with jobs, or other reasons, the corps too often appeared, as I have said, to lack the cordial support of the surgeon-general's bureau. It was often easier to get prompt correction of negligence or abuses through personal influence with department commanders, and reporting results only to Washington. An inspector constantly migrating through his large department could not always follow up his own recommendations, and, if not approved, have the opportunity of justifying them. Department directors, with few exceptions, gave only such information as was formally demanded, instead of affording full and frank expositions of affairs, which the inspector was left to hunt up for himself. An inefficient officer would be retained by some secret influence; a new hospital, not needed, or badly located or constructed, would be accepted, regardless of remonstrance. Much, of course, was unavoidable under stress of emergencies, but much could have been avoided and to the great profit of the service.

From Washington, I was ordered to duty in the Western Department, comprising Western Virginia, Ohio, Kentucky, Tennessee, and as far south as our lines would permit. A large number of hospitals were grouped on the Ohio River, at Louisville, Cincinnati, New Albany, Mound City, etc., in hastily extemporized buildings — schoolhouses, churches, warehouses, etc., as became necessary for the crowds of sick and wounded from the front, notably Shiloh.

Many were in excellent order, doing good service; others overcrowded, badly policed and badly served. Their officers, as a rule, did all that could be done; but here, as elsewhere, the best results could neither

⁴ An appeal to the Chairman of the Military Committee, or even to the Senate itself, would have made things rather lively for a while; but it would have been, notwithstanding, less insubordinate and undignified, savoring too much of the methods of hospital bummers and wire-pulling.

⁵ General Order, 308, September 12, 1863. Also, Hammond's instructions to medical inspector.

be attained, nor even expected, until the government realized the necessity and economy of large general hospitals specially designed for the purpose. At the present day, when antiseptic surgery gives such brilliant results, and when the successful physician knows that sanitation and good nursing are better than drugs, it becomes more and more a matter for wonder, that, in the damp, dark, ill-ventilated old buildings, with their impure surroundings of earth, air and water, the mortality was not often infinitely greater. But for the field hospitals under canvas, and free exposure to the air, worse results might have been reasonably anticipated. . . .

An early tour of duty took me to Jackson, Tenn., then under Logan's command; to Columbus, Ky., recently evacuated by the Confederates, leaving behind them little but their tracks and a foul area for our occupation; thence to General Sherman's command at Memphis, where I found, in a large, unfurnished hotel, sheltered some 400 or more wounded. A goodly proportion of these were totally unfit for further service, and were clamorous for discharge. By recent orders department commanders could give them this on the recommendation of an inspector, without delaying for the regulation requirement of sending the papers first to Washington.¹¹ Making up a long list, I returned to headquarters for my first interview with the general, he being out at my first visit. Presenting it, and requesting prompt action in the interests of the men and hospital, he offered to send the papers on at once. Being told that such delay was unnecessary, he intimated rather gruffly his surprise at any one's coming to his department to teach him his duty; but soon discovering by reference to his file of orders that this one had been overlooked, he, with great cordiality invited me to dinner. He was much interested in, and anxious to hear about the Army of the Potomac, where I had been medical director of his old division, under General Porter. He was utterly incredulous as to the possibility expressed of Porter's conviction in the trial then progressing, giving in terms more emphatic than polite his opinion of one of his accusers. . . .

Returning to Nashville, I found the churches and warehouses filled with the wounded from the recent battle of Stone River. Abundant supplies had accumulated since the battle; but through *some one's* negligence, as will be seen, the army left Nashville with its medical department meagrely provided. A part, even, of this scant supply was captured before reaching Stone River, by the driving in of the right wing during the first day's fight.

The pike from Nashville to Murfreesboro' (General Rosecrans's headquarters since the battle of Stone River), some thirty miles long, was infested by guerrillas, necessitating an escort for trains and small parties. My predecessor, Dr. Hamilton, venturing it alone, had been recently "held up" at Lavergne, and robbed of horse, instruments and everything down to his boots.

We met Granger's corps on its way to the rear, after a long tour of duty in the field. Ragged, and quite unlike our Eastern troops, they had, nevertheless, the bearing of veterans. My English companions, who had served through the entire Crimean campaign, and who knew a soldier when they saw him, were enthusi-

astic. "A jolly good lot," "solid fellows," "they mean business," etc., were expressions which betrayed the impression made by their first view of American soldiers.

At Murfreesboro' (January 13, 1864), the medical department was found in a deplorable condition. Complaints came from all sides, not only from our own officers, but from sanitary and other civilians, of the general inefficiency and neglect of the chief medical director. Of the three army corps, one medical director alone (a surgeon of volunteers) had been able to meet his own urgent needs, from supplies which he had had the foresight to secure before leaving Nashville, regardless of regulation limitations.

The chief medical director, an easy-going, good-natured man, relying too much upon his subordinates, had made but little personal inspection into the actual condition of affairs, although ten days had elapsed since the battle. One instance only. During my rounds, I came upon a small regimental tent-hospital, one of its beds occupied by a poor fellow with bad compound fracture of the thigh; no splints, no extension, filthy bedding and general neglect. The surgeon absent, no one knew where. It appeared also that he and his hospital steward messaged together. Such a case of incompetency, or worse, could not be overlooked. This part of the report was returned from Washington to the department, and submitted to a board of medical officers, without any notification to me, or opportunity to justify the charges. They gravely decided that the accused was an "excellent officer," and that "they found no cause for censure." The general commanding the division, as I was informed, was a neighbor and especial friend of his worthy doctor, and enjoyed, no doubt, the opportunity of sending this valuable information to me, after I had left the department, with his approval indorsed.

A crying evil throughout the country was especially apparent in this Department of the Cumberland, to wit: the facility with which surgeon's certificates of disability were granted, enabling the slightly wounded to get home, where, surrounded by family sympathy and comfort, wounds were sure to heal with incredible slowness.

This abuse was not peculiar to our service. The French inspector-general, in his special report from the Crimea, urges the imperative need of putting a check upon this absenteeism, this craving for the family hearth-stone, so natural, but so enervating to the army. He says that of every hundred sent back to Marseilles, *ten only* needed hospital treatment.¹²

General Rosecrans was extremely annoyed and incredulous, on hearing the condition of affairs, defending his medical director, on the ground that transportation had been wanting; but when convinced that his army had left Nashville without any previous report to him of this lack of supplies, that his sick and wounded were, since the battle, suffering from this neglect, and that so many trifling wounds had been allowed to leave his jurisdiction unnecessarily, he promptly gave his co-operation in compelling the needed commissary and other changes, relieved his medical director, and established a large field hospital under canvas. . . .

In Nashville, during the winter of 1862-63, supplies were scanty, wood scarce, shade-trees and groves were necessarily sacrificed, hardly boards enough for coffins

¹¹ General Orders, 53 and 65, May 16, 1862. Also, Act of Congress, May 24, 1862.

¹² Bandens, p. 36.

for the dead, and little coal obtainable, owing to low water in the Cumberland. Under these circumstances, some, even of the most prosperous families, were dependent upon us for daily necessities, but in spite of this, the hostile spirit was not concealed. Some of the ladies (or women) were amusingly eager to show their contempt and fear of contamination by giving a wide berth to officers encountered, though there were many charming well-bred people who, without disloyalty to their friends, had too much dignity and self-respect to exhibit any personal rudeness. A few indeed were as hospitable as their facilities for hospitality would permit. The insolence of the former, however, reached such a degree that the commandant found it necessary to administer a rebuke. One day a convoy of wounded Confederates, with a number of their own surgeons, came in from Murfreesboro'. They were soon surrounded by these female patriots, and with such insulting demonstrations to the North that they were ordered to receive this convoy to their own houses, with a curt intimation, that any lack of proper care would be visited with severity. Making an inspection a few days later, I found these men miserably fed, and neglected by their own surgeons, who seemed perfectly indifferent to their duties.

The poor fellows begged to be sent to our hospitals, and their devoted countrywomen showed no reluctance, having evidently had quite enough of them. The change was soon made, the surgeons being sent over to General Bragg with a report that must have assured for them a sweet reception from that amiable officer. . . .

Comparisons have been often attempted between the Western armies and the Army of the Potomac. It would be presumption in me to offer an opinion. The deeds of the Western men speak eloquently enough for them as soldiers, — but for the medical service, I have the right to assert for them an equality, at least, with that of the Atlantic States. Nor were the exceptions to a high standard more frequent there than here. The more important centres, such as Cincinnati, St. Louis, Louisville, Nashville and Memphis, were as well provided and as skilfully managed as in our larger Eastern cities, and they had the advantage of being far enough from Washington to be, in some respects, independent of red tape. Every surgeon knows that the steel edge is apt to be dulled by too much gold or silver plating.

In March, 1863, was ordered to the Department of the East, comprising New England, New York and Northern New Jersey, with from seventy to eighty hospitals and posts for monthly inspection, including among them some of the largest hospitals in the country, and the large prison-camp of Elmira. The monotony was varied by frequent special investigations, under orders from the Secretary of War, such as a visit to the Department of the South for report as to the sanitary condition of General Sherman's army on its arrival at Savannah; inspection of the medical service in that department; inquiries into alleged abuse of patients at Portsmouth Grove, New Haven, Newark and Fort Adams; choosing sites for new hospitals in reply to demands of State authorities; and like matters.

The visit to Savannah was in December, 1864, and the day after arrival at Hilton Head, the 23d, a dispatch was received that Sherman had arrived, and that the rams in the river were blown up. Communica-

tions were not, however, opened for some days, and this interval was utilized at Deveaux Neck, Beaufort and Morris Island, the latter a graveyard for dead soldiers and decomposing filth.

I was fortunate enough to be in Savannah (December 31, 1864) in time for a lunch given by his staff to General Sherman on New Year's Day (January 1, 1865). As an instance of his proverbially tenacious memory, I would say that the general not only greeted me by name, but at once resumed the subject of our conversation at Memphis fifteen months before, by saying, "You were right after all about Porter"; his mind having in the mean time been bothered with all the cares and anxieties of his campaigns from Memphis to Savannah. Something being said of Charleston, I hinted, so far as I dared, at his probable future movements. After a moment's reflection and with a peculiar smile, he said: "Well, I am going along down the coast, cleaning up things on the way, till I get to Boston, wipe that out, and retire."

Called on the mayor (Dr. Arnold) whom I had known previously. He was sitting over an apology for a fire, no fuel being attainable. His reception was cordial, but the interview was a sad one. The war, he said, had utterly ruined him. Finding that the result was inevitably against them, he had some time before endeavored in vain to get the inhabitants to send in their submission to Sherman, but that now they were glad enough of his arrival to offer them protection against the lawlessness of Wheeler's cavalry, who had been holding "high jinks" to the annoyance and terror of everybody. At the Pulaski House, it was difficult to get the scantiest of meals, and as to fuel, it was a luxury indeed.

Sherman's efficient medical director (since Surgeon-General Moore) had so well managed as to bring many of his wounded with him. Others, it was said, refused to be left, and pluckily stumbled through, who in other circumstances would have dropped by the wayside. Some bad cases even improved with every day's movement, in such transports as could be improvised — which all goes to show the marked difference between success and defeat in their relations to the *morale* and *physique* of the soldier. As promptly as transportation could be provided, they were either transferred by sea to Northern hospitals, or properly provided for before the march North was undertaken. . . .

At Fort Pulaski, 314 Confederate officers were imprisoned. One of them had been in hospital two months. On arrival they were already suffering from diarrhoea, dysentery, scurvy, etc., but for two weeks preceding the inspection, having convalesced in some degree, they had been placed on what was cheerfully called "retaliatory rations." They were all without other clothing than such as they had on when captured — one-third without blankets, and all with insufficient food and no money. By a charitable evasion of the order, the hospital case had been in some degree mitigated. At Hilton Head also, the provost-guard's barracks contained 329 prisoners — 237 of them officers, housed in two barracks 86 × 26 feet, with double bunks, the bedding being only such shavings as they could gather from the open area of the prison enclosure, and no fires allowed in quarters. For three weeks their rations, also, had been "retaliatory" namely, ten ounces of meal, four ounces of bread, eight ounces of pickles and one-fifth of an ounce of

salt.¹⁹ They cooked the meal as they best could in their tin mugs, with such heat as they could get from the damp chips and scraps of fuel at their disposal. They complained bitterly of this treatment. I find the following sentence in my official report: "Police of quarters of rebel officers filthy in the extreme, without fire or bedding, and that of the log-cells of other prisoners beggars description. The ammoniacal odor and the want of suitable light and ventilation rendered it the most disgusting and filthy that it has ever been my lot to see occupied as a prison."

Making this state of affairs the subject of an earnest protest at headquarters, I was told that "it took like wildfire at the North!"

Whatever may have been the barbarities committed at Andersonville — and as the statistics clearly prove they were cruel beyond description — neither our own government, nor the people whom they represented, ever manifested a disposition to starve or maltreat prisoners. The journals of that day contain, here and there, wrathful articles excited by some fresh outrage at Libby or Andersonville; but the great mass of our people were only stimulated by them to a more determined prosecution of the war, not to unworthy retaliation in kind. The *Red Cross* is the banner of the Nineteenth Century. . . .

After a somewhat animated conversation General Foster was finally convinced of the wisdom and necessity of modifying his orders, much to the relief of the chief commissary and others; nor did I rest until assured of the result, by carrying the order myself. . . .

In connection with this subject of prisoners, I may here refer to the large prison-camp at Elmira. It is useless to deny the fact that such unfortunates were not always in clover with us. It must, however, be again asserted, and emphatically, that not only as a rule were they never designedly treated with harshness or cruelty, but that very large numbers of them, sick and wounded, were always to be found in our hospitals, placed in the wards on an equality, in every respect, with our own men, and, with very rare exceptions, always grateful, always on good terms with the other inmates, chaffing each other good-naturedly as "Yanks," or "Rebs," constantly appealing that they might not be sent to their friends over the lines. Unless forewarned one would rarely have recognized them as prisoners. Many a time on demanding the name and regiment of a patient, the reply that he was from Georgia, Alabama, North Carolina, or other of the Confederate States, afforded the first information of his status. . . .

Doubtless there was, for a while, much unavoidable suffering at Elmira. The location of the camp, which was originally established as a recruiting rendezvous on the low, sandy border of the Chemung River, the water percolating the gravel a foot or two from the surface, proved to be injudicious. The small shelter-tents were at times overcrowded, and the occupants, clothed in their butternut rags, were not always free from vermin on their arrival — depressed, disheartened, enfeebled by their experiences, in some instances, as in the case of those from Newbern especially, half of them already on the sick list — could hardly be other than miserable.

¹⁹ In June, 1864, six months previously, the following ration for prisoners in hospital had been established by government: pork or bacon 10 oz. (in lieu of fresh beef), or fresh beef 14 oz.; flour or soft bread 16 oz., or hard bread 14 oz., or corn meal 16 oz. To every one hundred rations: beans or peas 12 lbs., rice or hominy 8 lbs., soap 4 lbs., vinegar 3 qts., salt 38 lbs., potatoes 15 lbs.

On one occasion a large batch, arriving unexpectedly in cold weather and half clad, were for days without straw, the supply in the vicinity being exhausted. Besides those already sick on arrival, others soon became so. Barracks were provided as soon as possible. For a time pneumonia, variola and gangrene prevailed. It was the most fatal of our prisons.

In October, 1864, there were 9,063 prisoners, over 1,070 of whom were confined to their beds. In January, variola prevailed extensively. In March, my report gives "29.2 per cent. sick in hospital and quarters with pneumonia, variola, typhoid fever, gangrene and diarrhoea," and adds: "The condition of the patients is pitiable. Diseases nearly all of typhoid type, and much of the sickness attributable to crowd-poisoning. Clothing insufficient. Weather forbids exercise in the open air. The depressing influences incident to prison life not relieved by occupation. The Fort Fisher prisoners arrived in very cold weather, much depressed and poorly clad, many of whom were soon down with pneumonia and diarrhoea rapidly becoming typhoidal." From this time on, till June, the sickness and mortality rapidly decreased.

There were many causes for this, — less inclement weather, vastly better medical supervision under a conscientious and energetic surgeon, and, it may be added, the gradual elimination by death of the weaker and most wretched.

The inmates of the nine prisons tabulated in the "Medical History of the War," Vol. III, pp. 34-65, give an average mortality of 230.4 per thousand, in comparison with 732.6 per thousand at Andersonville, "that most fatal field of the war," as it has been so aptly called. Of the above-mentioned nine prisons Elmira was the most unhealthy, the annual mortality reaching 444 per thousand.

To the credit of our profession, South as well as North, it should be said that the medical officers at Andersonville made constant reports of the true condition of affairs there, conditions for which they do not appear to have been responsible. . . .

Occasionally our own men in hospital would charge the officers with maltreatment or cruelty, but careful investigation generally proved such charges to be unfounded, originating with some crank or bounty-jumper rebellious to discipline, who would send his garbled statement to the member from his "destrick," who, in turn, was glad enough to get rid of it by passing it over, with a strong indorsement, to the Secretary of War, and thence again indorsed to the department inspector for report.²⁰

²⁰ As a proof of the extreme readiness with which kind-hearted but injudicious civilians were constantly misled I cite an instance occurring in New Haven. When that hospital was opened, the ladies of the place were, as was everywhere the case, full of sympathy, exhibited in constant visiting and the distribution of all sorts of considerations, ready to help the poor, justly or unjustly charged. Being now a hindrance to the proper administration of the hospital, the recovery of the patients, and necessary discipline, Dr. Jewett, in self-defence, forbade admission except at stated hours, and also, that no delicacies should be distributed without approval of the ward surgeon. He was at once declared a mean-spirited master. Soon a mischievous rascal, a son of one of the ladies (or her son), who had so imposed that she had even taken him about in her own carriage, was, after repeated violations of rules, tied up by the thumbs as a punishment.

This gave the Samaritans an excellent opportunity, headed by a college professor, for a strong representation to influential friends in Washington, denouncing the surgeon's brutality. Without explanation the surgeon was not only arrested, but sent arbitrarily to Fort Columbus, pending an investigation. Finding no committee to inquire, I, as managing editor of the *New Haven Journal*, I placed one of the ward surgeons temporarily in charge, with orders to report the fact to the medical director in New York, who, by the way, made a complaint of interference with his prerogative, although he had neglected his own duty in failing to do this when the sur-

The erection of hospitals throughout the country in distant States, for the reception in each of its own wounded and sick, was a grievous mistake, the source of great abuses, involving enormous unnecessary expenditure. The cost of construction, furnishing, and transportation to and fro, were of less consequence than the fact that when once comfortably quartered near their houses great difficulty, as already said, was experienced in getting them back to duty. It became, in fact, a premium on malingerer. Their relatives, backed by the clergy and local politicians, were always at hand, and the surgeon in charge, usually a civilian of the locality whose practice now and in the future was at stake, could hardly avoid being influenced, or, should he prove firm and independent, there was always the resource of an appeal to the senator or representative. There can be no manner of doubt that an army of soldiers (in number if not in material) was thus away from the ranks, shirking duty at times of great emergency during the latter years of the war. A notable instance of this has been already mentioned, in connection with the Army of the Cumberland, after the battle of Stone River. . . .

A prevalent idea in the community at large was that whiskey was the bane of the army. Coming under my own personal observation, its immoderate use was less than in civil life. After unusual fatigue and exposure rations of spirit were distributed freely, and with benefit. As bitters (with quinine) it was, in my judgment, of inestimable service. The official reports collated in the "Medical and Surgical History of the War," Vol. III, p. 166, though not entirely unanimous, tend to confirm this belief, notwithstanding the sensational reports of chance visitors as to its demoralizing influence.

Among the officers lapses in this respect were occasionally met with, but usually in individuals who would probably have indulged still more freely in any other avocation.

In conclusion, were another great war to occur, there would of course be a corresponding expansion of the medical service. From what I have been able to see of its needs, and of which this paper gives but a meagre sketch, I am convinced that, as in the English service, the supreme authority should be an *inspector-general*, with a sufficient number of deputy inspectors, and next in rank to them, the head of the administrative bureau, either as *surgeon-general* or by any other name, so that no question of authority should intervene to minimize the value of a service which, when prosecuted with the energy and efficiency of which it is capable, can hardly be over-estimated.

Public opinion in these modern days justly demands perfection in its *ambulance corps*, meaning thereby to include all the details of military medical service. This ideal perfection can never be attained short of a corps of specially trained men such as I have spoken of in the early part of this paper. The time has passed for officers in high position to object on the score of expense or otherwise to radical changes in details of organization, which, the principle being once conceded, are all perfectly susceptible of adjustment without diminution of or interference with their authority and legitimate influence.

geon was arrested! Among other delinquencies the culprit was proved to be in the constant habit of slandering the guard, passing the night in a house of ill fame, defaming the hospital, threatening the officers, etc. To the mortification of his accusers, Dr. Jewett was promptly restored to duty.

In this country where the policy has always been (and, it is to be hoped, will long continue) the maintenance of a *skeleton* standing army only, any great conflict sprung upon us must be met by volunteers, and, of course, the appointment of its medical staff from civil life. It will hardly be contended that there is such a lack of professional ability, business aptitudes or common sense in the medical profession, outside the regular army, as to render it impracticable to find places for a fair relative proportion, in the higher grades of the service, of some of the *cranial*, as well as the tarsal, bones of the aforesaid *skeleton*.

SOME OF THE RELATIONS OF CLIMATE TO HEALTH AND DISEASE.¹

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THE COLD WEATHER (DRY AIR) THEORY OF DISEASE.

I HAVE discussed the subject of humidity thus in detail, not only because there are meteorologists who believe that *absolute* humidity has the greater influence upon health, but because upon the rejection of *relative* humidity has been reared by a diligent and conscientious observer a cold weather theory of the causation of disease²⁰ (pneumonia, bronchitis, influenza, phthisis, small-pox, scarlet fever and diphtheria), acceptable to meteorologists, but, in my opinion, fallacious.

The foundation of the whole theory rests upon the assumption, which we have proved unwarrantable, that low temperature always and necessarily means low absolute humidity. Depending upon this assumption is the further hypothesis that this low absolute humidity induces disease, not only lung, but also other diseases, by its action upon respiratory mucous membrane, because the air which is exhaled from the lungs rapidly abstracts water from the body, since it leaves the body at about the temperature of the blood, and is always "saturated" with moisture.

The best physiologists state, on the contrary, that the temperature of expired air is, as a rule, from 3° to 5° F. below the temperature of the body, and varies not only with the relative temperature of the blood and of the inspired air, but with the rate and depth of breathing.²¹ Admitting, however, that cold inspired air is expired at a warmer temperature, it does not therefore follow that it is saturated with vapor. In fact, it probably is not saturated when it leaves the body, because, although saturated in the deep-lying bronchi, it meets the lower temperature of the air the moment it strikes the buccal mucous membrane, and suffers a condensation within the mouth and throat, the vapor tension following the same law of rapid decrease as in the formation of clouds and mists in the open air. So that, although it is undoubtedly true that in a cold atmosphere the weight of vapor extracted from the respiratory mucous membrane may

¹ Read before the Massachusetts Medical Society, June 11, 1889. Concluded from page 125 of the Journal.

²⁰ Henry R. Ball, M.D., Secretary of the Michigan State Board of Health, "The Causation of Pneumonia," in Annual Report of Michigan State Board of Health, 1887, page 246. "The Causation of Cold Water Diseases," ibid, 1887, page 197. "The Climatic Causation of Consumption," Journal of the American Medical Association, January 1888, pages 73 and 116.

²¹ A Text Book of Physiology, M. Foster, page 265. Medical Physics, John C. Draper, 1885, page 587. The statement made by physiologists is that air is "saturated" with vapor when expired from the lungs; and such a statement is undoubtedly true.

be considerable, it by no means follows that it is so enormous in amount as has been claimed, or of disastrous results to the system.

But it is not low temperature alone which has the power of absorbing moisture from the body and respiratory organs — mark the influence upon skin, hair, nostrils, mouth, lips and throat of a high wind, causing rapid evaporation and *low relative humidity* when the temperature is high.

Indeed, to make the "dry-air" claim thoroughly consistent with itself, the argument based upon low absolute humidity should be carried one step further. Air with low absolute humidity occurs not only with low, but also with high temperatures, as is seen in Arizona, New Mexico and parts of Texas. Considering, then, for example, pneumonia, we are driven to the conclusion that it is not cold climates alone that cause the disease, but hot climates as well; and when we have reached this point we are probably nearer to the truth than are some of the cold weather theorists.

Physiological experiments upon animals have clearly shown that mere frigid temperature is not provocative of pneumonic consolidation, but that if, after an exposure to high, and then suddenly to low temperature, the animals were inoculated with the pneumococcus of Friedlander — they succumbed to the disease more readily than animals similarly inoculated without exposure to such ranges of temperature.²² The census of 1880 gives presumptive evidence that the greatest prevalence of pneumonia is in the Southern and Southwestern States; arctic voyagers do not report it to be frequent in that region, while the united testimony of clinical reports prove it to be a disease from which no climate is exempt.

Why should cold weather and low absolute humidity *per se* cause disease? Because, it is claimed, of the abstraction of the chlorides from the blood by the process of osmosis and their accumulation in the tissues. It is clear that, under such a theory, salt must be, at certain cold seasons of the year, a positive poison to the system. I confess that, unless some other factor besides dry air be given us, I can see no adequate cause, except chance, for the occurrence of any particular one of all the crop of diseases I have mentioned, some contagious and some not. So far, however, as Massachusetts at least is concerned, there are marked differences in the distribution of some of these diseases, and probably, therefore, marked differences in their causation. Our carefully kept statistics not only prove that pneumonia is less frequent and phthisis more frequent on the coast than in the interior; they also show that pneumonia does not reach its highest rate in the coldest months of winter, but in the variable months of spring.²³ Other conditions beside the inhalation of dry air, the presence of salt in the respiratory mucous membrane, and the osmosis of albuminates from the blood through these mucous membranes, are undoubtedly at work to cause such distinct diseases as phthisis and small-pox. But that salt inhaled and deposited within or upon the body is not altogether provocative of disease, is abundantly proved by the health of workmen in salt manufactories and lagoons, and their freedom from respiratory diseases as well as from rheumatism and neuralgia.

If the "dry air" theory be correct, we are indeed placed between Scylla and Charybdis. Send a con-

summative on an ocean voyage to recover health, he is exposed to greater dangers, in spite of the purer air, from phthisis, pneumonia, diphtheria or small-pox than he was at home, because he is breathing air the saline constituents of which will irritate the respiratory mucous membrane. Send him inland to recover health, where the air is cold, dry and free from salt, he is exposed to the same dangers, because of the exhalation of these same salines from the blood.

The whole confusion upon this matter lies in the assumed powers and properties of high temperature and of dry air (absolute humidity). On the one hand, the simple fact that hot air can hold more vapor than cold air, does not make it hold more at a given time and place, except under the influence of other factors. So too, although cold air is drier (absolute humidity) than hot air, we ought not to base positive arguments upon the half-truth that "cold air is always necessarily dry,"²⁴ as though there could, under no conditions except temperature, be any comparative degrees of dryness.

On the other hand, what possible inherent power, for good or for evil, can one, five or ten grains of aqueous vapor have upon us when they are considered abstractly and apart from any relation to our bodies? The very moment, however, that we begin to discuss the relations of our bodies to the air in which they live, whether its temperature be high or low or its absolute humidity high or low, at that same moment we are actually discussing the question of *relative humidity*, whether we call it by that name or not. There is no way in which we can discuss the absorption of moisture from our bodies by the air, except by a consideration of *relative humidity*. All that the "dry air" (absolute humidity) theorists have therefore done is quietly to substitute the temperature of the blood or of the body for the temperature of the air, virtually compare its vapor tension with the vapor tension of the air temperature (disregarding altogether the dew point and its vapor tension), — claim to ignore the data of *relative humidity* but calmly use its principles. If we may be allowed the unscientific phrase, they have discussed the *relative humidity* of the body, even though they are not willing to study the *relative humidity* of the air.

Since, however, the temperature of the surface of the body is modified by external atmospheric conditions, as we have seen, and the temperature of the blood similarly modified but in a different degree, it is evident that for an air temperature which is easily obtainable they have substituted body and blood temperatures that they cannot so readily obtain. If it be claimed that facts show these temperatures of the body and the blood to be fairly constant under all ordinary air temperatures and atmospheric conditions, I reply that this constancy is possible only under the play not of absolute but of *relative humidity*,²⁵ acting both directly and also through the regulatory mechanism of the nervous system, — a further proof of the value of *data of relative humidity*.

²² Henry B. Baker, M.D.: *The Causation of Cold Weather Diseases*, loc. cit., page 206.

²³ For example, with an absolute humidity of 1.676 grains of aqueous vapor the dew point will stand at 26° F. Now a dew point of 26° with an air temperature of 70° means a large evaporating power — 70% of the heat of the water will be lost before the temperature falls, — it means a much smaller evaporating power — 47% of relative humidity. The relations of our bodies to external phenomena are inherently complex; and we cannot make them simple by bare assumptions of possibilities, by speculations and inferences which are unsupported and unsupportable by facts.

Climatic Illustrations.—To what extent are our conclusions corroborated by actual climatic conditions? If, as has been claimed, cold weather be the cause not only of pneumonia, but of such dissimilar diseases as pneumonia, phthisis, measles, scarlet fever, diphtheria and small-pox, by virtue of the simple assumption that cold air is dry air (low absolute humidity), what shall we say when we find cold, dry facts to demonstrate that, although the temperature of Boston is almost identical both in curve, that is, seasonal variation, and in degree, with the temperature of Denver, the absolute humidity is far greater than that of Denver?

If the "dry-air" hypothesis be correct, Denver is more causative of pneumonia, for example, than is Boston.²² On the other hand, if it be the general similarity of the curves for absolute humidity and for temperature that determines the causation of pneumonia, then since there may be granted a superficial correspondence between these curves for Boston and for Denver, both places are equally causative of pneumonia. It is evident that both of these propositions cannot be true at the same time. If again, it be the similarity of the curves for absolute humidity and for pneumonia that determines the cause of the disease, grave doubts arise, as we have said, upon the question of facts.

To go still further, if it be low absolute humidity that is the ultimate cause of pneumonia, then Camp Thomas in Arizona and El Paso and Fort Davis in Texas, all of which have an absolute humidity nearly as low in degree and generally corresponding to that of Denver, but a much higher temperature, should be as subject to pneumonia as is Denver, while Winnemucca, Nevada, with an almost total absence of absolute humidity, but yet a high temperature, should be still more subject. Owing to other causes this may be true, but the conclusion we have drawn is both consistent and at the same time gravely inconsistent with the cold weather theory.

Again, the absolute humidity of Denver and of Mount Washington, both of them mountain elevations, shows a more marked correspondence of degree and of curve than any of our previous illustrations; but the temperature of Mount Washington is far below that of Denver. Mount Washington and Pike's Peak, however, with a nearer correspondence of temperature but a great difference in elevation and surrounding conditions (that is, local peculiarities,) have an absolute humidity very unlike. So, too, Camp Thomas, El Paso and Fort Davis have all the same approximate degree and seasonal range of temperature as Jacksonville and Norfolk, yet an absolute humidity of far less degree and range.

On the other hand, by a study of the relative humidity of these same localities we are driven to the irresistible conclusion that, apart from temperature, there are atmospheric conditions in these different places which must exert an important influence upon daily life and comfort. I cannot here go into full description of the peculiarities of each locality. It serves my present purpose of illustration to say that in every

²² That pneumonia is particularly fatal in Denver is no argument upon this point, since the fact is known to any one acquaint with the climate. The excessive altitude depresses the heart, and by its deficiency in oxygen compels a remarkable activity of lung tissue in order to oxygenate the blood thoroughly. These factors, potent to health and metabolic activity of tissue, militate positively against recovery from pneumonia with its determined pulmonary congestion and lessened quantity of aerating lung.

instance it is the data of relative humidity which serve as guide-boards to climatic characteristics essentially local—characteristics concerning which absolute humidity can tell us little or nothing. In the one case this characteristic will be the amount of sunshine, in another the amount of moisture condensed as mist, fog or actual precipitation, and in another the direction and character of the winds.²³ It is clear therefore that a low absolute does not necessarily carry with it a low relative humidity, nor does a low relative invariably mean a low absolute humidity.

Summary of Humidity.—The conclusions of this study of humidity are important. Let us assume an air temperature of 25° "saturated" with vapor, conditions easily borne by the body, to be introduced into a room through the cold air-box of a furnace. Now by heating the room to 70°, the relations of the aqueous vapor to the space it occupies have been changed; the "relative humidity of the air" will be reduced, and possibly to an unbearable degree, but the absolute humidity will remain unchanged. In other words, warming the air has changed its character, has so increased its capacity for holding vapor that it will abstract moisture from every surface with which it comes in contact.

The effects upon our systems are manifold—a parched mouth and skin, a paralyzing of the heart, a throbbing head, and a creepy, chilly sensation in the body. None of these sensations were present when the air was cold, although the absolute humidity was precisely the same; nor did absolute humidity work the change. It is clear then that in this instance it is not the low degree of absolute humidity, but the low degree of relative humidity, that may induce disease by abstracting moisture from the body.

Let us, on the other hand, assume a wet soil with its low temperature and low absolute humidity. Owing to the slight capacity of such air to hold vapor, it cannot absorb much vapor; the relative humidity is already high. The major effect of such air is to abstract heat, not moisture, from both the body and the lungs. Only when evaporation is rapid, that is, when the relative humidity is low, as on a cold, bright winter day, will cold air be markedly a drying air, unless indeed it may be said to abstract moisture by freezing it.

Barometric Data.—There is, however, another set of data that has important relations to health, but that has not yet received from physicians the attention it deserves. We have seen that whatever conditions tend to lower the capacity of the air to hold vapor, that is, to raise the relative humidity, must, in the nature of things, obstruct the orderly functions of the body. Some of these conditions are present when the barometer is falling from changes in the weather, so that bodily phenomena are somewhat the same with a low barometer as with a high relative humidity.

In addition, however, to these functional derangements, must be mentioned the influence of atmospheric pressure upon blood tension and the heart's action. When the barometer is falling, the blood pressure is lowered and the heart's action depressed. Our individual feelings are evidence of this nervous and vascular disturbance; on a first clear day following a "spell" of dull weather we are sleepy, and more easily than usual tire with moderate exercise, while on a lowering day before a storm we feel a languor and depression. To persons who are either enfeebled by pro-

²³ See Note 24.

tracted disease, suffering from shock or inflammation, or about to undergo a surgical operation, a sudden fall of barometer may bring disastrous consequences — consequences which the physician, warned by the barometer, may have averted.

Atmospheric Electricity. — Yet, after all, we are driven to the thought that neither the germ theory, nor the influence of the gross conditions of the weather that we have thus far studied, nor even the combination of these factors with inherited tendencies, occupations, modes of life, etc., offer in all respects an adequate explanation of the causation of disease. Although a high temperature and great moisture are theoretically the ideal conditions for the growth of germs, the fact remains that many of our well-marked germ diseases, both contagious and infectious, originate, or at least develop, in an atmosphere that is *cold* and either *wet*²² or relatively humid.

There is considerable probability that upon the surface of the earth, whether by the friction of revolution or of the winds, electricity is produced and stored up, the negative in the earth, the positive in the atmosphere. The air is full of this potential force,²³ and there is no phenomenon ever studied which begins to show such rapid and incessant variations. What it means, whether the force goes and what it does, are all beyond our present knowledge. Only infrequently does it become dynamic so as to manifest itself by gross outward phenomena; yet it must have a silent, ceaseless function.

This much, however, we do know. In dry air, there is very little evidence of the presence of electric force, — in fact, it is probable that if air could be made absolutely dry and kept so for any length of time, no electricity could be present in it. But in wet air and a cold temperature, conditions which we all recognize to belong to a low, wet soil, it is equally well known that the atmosphere is peculiarly full of electricity; and it is altogether probable that this surcharge is an overplus of the negative electricity of the earth rising in the air to meet somewhere its corresponding positive. My prediction is that when this intricate but fascinating subject shall be more fully studied, some connection will be established between atmospheric electricity and the phenomena of disease in, at least, cold and wet localities.

Ozone. — I omit all discussion of ozone, — that electrical form of oxygen, — because our knowledge upon the subject is so uncertain. If this gas be abundant in pure air, it would lend support to the popular opinion that it is health-giving and recuperative. But it is impossible to say whether this notion be a correct one or

²² One theory of the influence of these conditions upon at least phthisis has been offered to me in a correspondence with Professor Cleveland Abbe — that "rain and fog precipitate and wash downward germs of disease which are floating in the air; therefore the low valleys and meadows are more subject to consumption than high lands or dry interior regions." Not considering the temperature, humidity and pressure factors, but because rain and fog prevail when they vary, that the disease is developed in that locality.

²³ The amount of electricity thus stored up is enormous. At times the negative current and at times the positive current is in excess; even when neither is in excess of the other, interchange in the vast majority of cases, — on which occasions it is possible to our senses. Some of its influences upon our functions may have been noted before a thunder storm — a sense of fulness and oppression in the head, and frequently a decided nausea. Nor does the immunity in workmen in electric manufacturers and the constantly increasing use of electrical machinery when susceptible influences upon health, militate against any theory of the electrical influence of atmospheric electricity upon health; since in the former case it is the great quantity of metal in machinery and elsewhere will convey away and neutralize escaping electricity, while in the latter case it is probable that the very presence of electrical wires and points will in the same way facilitate the interchange and neutralization of atmospheric electricity overcharged.

not, since the observations that have been made have been so vitiated by the varying exposure to winds and to coal gas and sulphurous acid gas — the products of combustion — that they are without positive value. If recorded data are of any value, they tend to show that, contrary to expectation, more ozone is present in the winter than in the other seasons of the year. But I have great doubts that we know anything about the matter.

CONCLUSIONS.

(1) In tracing a connection between the weather and disease, the tendency is to go too far and ascribe to atmospheric conditions more of a causative influence than we can prove. Because a climate may expedite or inaugurate a cure is no inherent proof that a climate, even though it have the opposite atmospheric conditions, will, *per se*, cause the disease.

(2) Climate means more than the weather, and includes data concerning the contour of the land, the situation of hills and forests, and the nature and chemistry of the soil.

(3) With no reason can we measure a climate by its absolute humidity alone, or ascribe to absolute humidity the supreme control over the origin of disease. Coincidence of data does not necessarily show a causative relation.

(4) The degree of absolute humidity is more a resultant than a cause of atmospheric conditions, although it may be frequently a *mediate* cause of atmospheric changes. In no way, however, can we measure the value of absolute humidity or discuss its influence upon our bodies until we bring it into relation with something beyond itself. We are, therefore, constantly discussing *relative* humidity, — if we use the English language with its proper meaning.

(5) To assume that the weather controls health and causes disease by its influence upon the respiratory organs alone, is utterly to ignore the vascular and secretory systems of the body with their important functions. The assumption being unwarrantable, all conclusions and inferences based upon it are illusory.

(6) *Absolute* humidity, *per se*, can have no influence upon health. Its influence depends upon the temperature and accompanying atmospheric conditions. A *low absolute* humidity in *cold* air is the mediate factor in abstracting *heat*, not moisture, from our bodies. A *low absolute* humidity in *hot* air will abstract *moisture* from our bodies proportionate in amount to the degree of *relative* humidity in which our bodies live.

(7) *Relative* humidity measures the moisture-absorbing powers of the air, is an expression of our surrounding atmospheric relations, and is modified by and gives us a working notion of the direction of the winds and, at times, of the amount of sunshine. It represents conditions that are necessary to health and essentially local in their nature. It is, therefore, of great value to the physician.

(8) The best single datum to be used with the temperature is the *dew point*, since in combination with the temperature it will enable us to determine both the *absolute* and the *relative* humidity. Definitely given also the amount of sunshine or of cloud, we can form a fair idea of the hygienic value of a given locality to health.

(9) Condensed moisture has a great influence upon health. In some of its phases, it is equally as important as humidity (aqueous vapor). When in the form

of mists, exhalations and fogs it has, unfortunately, often been confounded with humidity.

10.—The chief atmospheric conditions modifying health, and therefore causing disease, are sudden and violent daily ranges in temperature, and secondarily in relative humidity.

11.—The barometer is an important but too frequently neglected instrument. A single observation of it gives us nothing that is of true value until it has been compared with preceding and succeeding inspections. The barometer should then be in a physician's office for daily use and not for mere display.

12.—We know, beyond doubt, the influence which certain low and wet localities exert upon health, but we do not understand completely the Why of this influence, so that we are not yet able to formulate with precision the general law under which our empirical observation is a particular instance.

13.—I venture the prediction that when in future years our knowledge of the electricity of the atmosphere is more completely studied we shall find in that mysterious force some solution of this problem. But I spin no gauzy theories upon the subject.

A SUCCESSFUL CASE OF GASTROTOMY FOR REMOVAL OF FOREIGN BODIES.¹

BY MAURICE H. RICHARDSON, M.D.

I WAS called to see Miss X., about thirty years of age, on Sunday, the 26th day of January, 1890. On the preceding Friday morning she had swallowed a gold pencil-case. On Saturday morning she attempted to swallow an open safety-pin of large size. This stuck in her throat, and she pushed it down with a steel crochet-needle. Soon after, she swallowed the crochet-needle and several common pins. On Sunday morning she first told of it. When I first saw her she was very comfortable. The attending physician was of the opinion that her statements were to be relied upon, and that she did actually swallow these things. I was shown a steel crochet-needle and a safety-pin, which she said were about the shape and size of the ones swallowed. She also gave a description of the gold pencil.

On physical examination nothing could be detected. There was no constitutional disturbance at this time. I advised her to be brought into the Massachusetts General Hospital, where she could be watched for a few days. On arrival at the hospital she said that she had considerable pain at times, and had had much discomfort on swallowing. There was pain on pressure in the throat and in the epigastrium. She could not localize the pain exactly, but described it as deeply seated. She was perfectly rational and composed. She was quite conscious of the gravity of the situation, and was desirous of having an operation done. From what description I could get of the articles said to have been swallowed, I thought that none of them would cause any trouble except the sharp crochet-needle. This was about five inches in length, of steel, and had a very sharp point, used in working fine thread. It did not seem to me possible for this object to pass the sharp curves in the duodenum. For this reason I was in favor of opening the stomach at once, although some twenty-four hours had elapsed since the needle had been swallowed.

¹ Read at the Meeting of the Surgical Section of the Suffolk District Medical Society, May 7, 1890.

At a consultation held on the following day, Monday, the prevailing opinion was against operative interference: first, because of doubt as to whether she had really swallowed these things; second, because there were no sufficiently urgent symptoms. The point in the discussion, at this and subsequent consultations, was as to the possibility of the straight, sharp crochet-needle passing safely through the intestine. The same evening, at the Improvement Society, after Professor Dwight's demonstration of the anatomy of the duodenum, I made several measurements with the needle, which was said to be precisely similar to the one swallowed, with reference to the possibility of its passing the curves of the duodenum. I came to the conclusion at that time that it would be very difficult, if not impossible, for this sharp instrument to get safely through this part of the intestine; and I was confirmed in my belief that the safety of the patient demanded interference.

On the following day, Tuesday, the temperature rose to 103° at night, and there was considerable discomfort and pain. I therefore decided to explore the abdomen on the following day.

Wednesday, January 29th, I opened the abdominal cavity in the median line, between the ensiform cartilage and the umbilicus, by an incision four inches in length. There was a thick layer of fat at this point, which made the exposure of the stomach quite difficult. The pyloric end of the stomach was seized, and drawn out of the abdominal wound. I felt at once the sharp point of some foreign body, which I supposed to be the needle. On getting it well between my fingers, I found that it was the open safety-pin sticking into and through the posterior walls of the stomach, just above the pylorus. This I removed through a longitudinal opening, half an inch in length, in the anterior wall of the stomach, two inches from the pylorus. I then explored the stomach itself with various instruments, to feel, if possible, any other foreign bodies. Nothing could be felt in this manner or by digital examination. I next explored, as carefully as possible, the duodenum and the intestines as far down as the ileo-cecal valve. Nothing abnormal whatever could be felt. Thinking the needle must be in the duodenum, I made another careful examination of that region and satisfied myself that nothing was there, although from the subsequent history of the case I am convinced that I was mistaken. Previous to the digital exploration of the stomach and intestines I made a temporary suture of the opening through which the safety-pin had been extracted. At the close of the exploration this was in such good shape and held so well that I left it. The patient recovered well from the ether and from the operation. Nothing had been taken by the mouth for twelve hours preceding the operation, and nothing escaped from the stomach while the pin was being removed. Great care had been exercised in the preparation of the patient and in the sterilization of the hands of the surgeon and assistant.

The temperature on the day of admission, in the evening, was 100°; on the following night, 102 1-2°; on Tuesday, 103°; on the night of the operation, 102°; and on the following day, 101°; whence it went quickly to a normal line.

On the 4th of February she passed the pencil. It was of gold, with rounded ends, and about a quarter of an inch in diameter. There was nothing about it

which would in any way hinder its passage through the entire alimentary canal. On the 14th of February she passed one of the common pins.

The patient rapidly recovered her strength after the operation, and was soon able to take abundant food by the mouth. The stitches were removed at the end of the seventh day.

On the 7th of February, nine days after the operation, the temperature began to go up, and a slightly fetid discharge was noticed from the dressing. On exploring the wound, at least a pint and a half of foul pus, with distinctly fecal odor, was evacuated from the depths of the wound. Exploration with the probe showed that the abscess was a localized peritonitis, and that the pus had become infected in some way from the alimentary canal. I came to the conclusion that the needle had perforated some part of the intestine high up, probably the lower part of the curve of the duodenum. I have seen no reason as yet to change this opinion. I fully expected to find the needle in the abscess cavity, but although I explored very thoroughly, nothing could be felt suggestive of a foreign body. By careful irrigation the abscess rapidly closed, and on the 10th of March the wound was entirely healed. During this time she had no unpleasant sensations whatever, except a feeling of discomfort about the epigastrium, which she called dyspepsia. Since leaving the hospital she has been in the best of health and spirits.

The most interesting point in connection with this case is, whether it is possible for a steel needle, five inches in length, with a sharp point and a hook on one end, to pass through the duodenum. I think it doubtful whether it would go through the rest of the intestine, even, and that it is almost impossible for such a thing to get as far as the jejunum. I was able by manipulations to pass through the duodenum of a cadaver a director of about this length, but the point of an ordinary director is much less sharp than the point of this needle.

There is so little danger in opening the stomach that I should not hesitate to resort to this procedure in all cases where there is any question as to the possibility of the foreign body getting safely through. The experiments of Senn, and very numerous clinical cases, have shown us that substances of most remarkable shape and size may successfully pass through the intestines; so that one would hesitate before saying that an object could not pass through which had successfully entered the stomach. For the purpose of removing the open safety-pin, which apparently had caused all the trouble there was in the stomach, and the pencil and the common pins, I should not have thought for a moment of performing this operation. I did, however, think the presence of the sharp crochet-needle a great menace to the patient's life, and in a similar case, where it was certain that the patient had swallowed an object five inches in length, sharp on one end, I should not hesitate immediately to perform gastrotomy, which is one of the safest of abdominal operations.

— Dr. William Lomax, an aged and wealthy physician of Marion, Ill., has given his entire estate, supposed to amount to \$100,000, to the Medical College of Indiana. The college has been reorganized to meet the views of Dr. Lomax, and is chargeable with a small annuity during the life of the doctor and his wife.

EXCISION OF THE KNEE FOR ANGULAR ANCHYLOYSIS: REPORT OF FOUR CASES.

BY ROBERT W. LOVETT, M.D.

ANGULAR ankylosis of the knee-joint, from whatever cause it arises, is a particularly disabling and distressing deformity. Especially is this the case in women, with whom walking without crutches is rendered impossible, for the reason that when one leg is so much shorter than the other, on account of the bend at the knee, the skirts would drag on the ground every time that the short leg was stepped upon, to an extent that would make progress impossible. With men the deformity is unsightly and the occasion of much discomfort, but it is not the positively disabling affection that it is in women.

Operations for the relief of the condition are so simple, and so satisfactory in their results, that the subject seems to merit more consideration than it ordinarily receives.

The following cases are of interest chiefly as a group, because they represent the same deformity due to three widely-differing causes, and because the affection was so severe that each of the patients was crippled by it, and gladly consented to any operation which promised relief.

In each of the cases excision was done, with the removal of a wedge of bone from the affected knee, so that the limb could be straightened. Two other operations are recommended by modern surgical writers, for the relief of this condition, *bisection forcée* and osteotomy of the femur.

In all of these cases an attempt was made, under ether, to straighten the limb by manual or instrumental means before resorting to a cutting operation, but no justifiable amount of force produced any effect. Had the ankylosis been of more recent date, this method might have proved useful, but during the operation the ankylosis was seen to be bony in all but the last case.

The operation of osteotomy above the condyles of the femur, with subsequent transverse fracture of the bone, has been recommended by some French and German writers;¹ but it has obvious objections in cases of angular ankylosis at the knee, unless the deformity is very slight, because when the leg is straightened, the lower fragment of the femur, below the fracture, is carried forward, and forms an unsightly bony prominence on the front of the leg, which is very marked in cases of severe deformity.

Proceeding without further comment to the cases in question, they were as follows:

CASE I. Mary R., age sixteen. Angular ankylosis of the knee, due to infantile paralysis.

The girl suffered from an attack of infantile paralysis in early childhood, which attacked the entire right leg; and the resulting disability was so great that, for a time, the limb was useless, and ankylosis of the knee in a flexed position resulted in the course of time. When seen, she was unable to bear any weight on the limb, on account of the flexion of the knee, which was bent about sixty degrees. There was a certain amount of knock-knee present, due to the overgrowth of the internal condyle of the femur. Motion at the knee was absent; and the whole limb was wasted, blue and cold, and the patient unable to walk without crutches.

¹ Revue d'Orthopédie, March, 1890.

November 6, 1888. The patient was etherized, and a formal excision was done, removing a wedge of bone of such a shape that the knee could be extended, and the knock-knee corrected as well. The bones were nailed together, and an antiseptic dressing applied, which was incased in plaster-of-Paris.

November 12th. The limb was dressed, on account of extensive staining of the outside dressing.

December 8th. The nails were removed, and the wound was found to be healed by first intention. Union was perfect.

September 12, 1889. The patient had a straight leg, with firm union.

At the present time she can walk without a crutch, and has a perfectly useful stiff leg, which is much more serviceable to her than any apparatus could have been.

CASE II. Innis T., age eighteen. Ankylosis, due to tumor albus.

White swelling of the knee occurred at the age of four. Abscesses formed and discharged; but she was treated for four years, and at the end of that time, it is reported that the leg was straight. Flexion, however, came on in the intervening years; and in March, 1889, the knee was flexed to forty-five degrees, and was fixed in that position by an ankylosis apparently bony. There was slight subluxation of the tibia. The disease was apparently quiescent; but the leg was almost useless for walking, and the patient was obliged to use two crutches.

March 27, 1889. The patient was etherized, and a wedge of bone was excised from the knee, which enabled the leg to be straightened. The two bony surfaces were nailed together by ordinary French box-nails, and the wound sewed up. A permanent dressing was applied, and the leg incased in plaster-of-Paris.

The wound was not dressed until April 15th, when it was found in excellent condition, and the nails were removed. A plaster bandage was kept on for two months more, and the convalescence was uneventful.

The leg is now straight and useful, with a shortening of two to three inches, due in part to the early retarded growth of the leg, and in part to the removal of the bony substance.

CASE III. Lizzie C., age seventeen. Ankylosis, due to rheumatic synovitis.

In 1887 the patient had a severe attack of rheumatism in the knee following exposure to cold. She was in bed six months with this, and at the end of that time had a stiff knee, which was fixed at a right angle. Pain and all symptoms had disappeared, but the limb was useless, and walking was only possible by the aid of crutches. There was no subluxation of the tibia, but the knee was perfectly stiff and motion was impossible.

March 27, 1890. The patient was etherized and an attempt made to extend the knee by force, but it was impossible to do so, and a wedge of bone was excised from the knee and the leg brought into position and held by nails, as in the preceding case. A permanent dressing was applied and incased in a plaster shell, and the limb was undisturbed until April 15th, when union was found to have taken place.

May 4th. The nails were removed, and the convalescence was steady and uninterrupted.

The result was very satisfactory, and a stiff, useful leg resulted, perfectly straight, with but little short-

ening. As early as June the patient was able to bear some weight on the leg.

CASE IV. Lilian H., age seventeen. Ankylosis, due to tumor albus.

At two years of age the patient had tumor albus of the right knee which became particularly troublesome at about the age of eight, when abscesses formed and plaster bandages were applied. But treatment was not carried out faithfully, and the knee flexed to a right angle and became fixed there, and was of no use in walking.

The examination showed the knee flexed to a right angle and allowing about ten degrees of motion, when it was stopped by a bony click in flexion and extension. Subluxation of the tibia was very marked, and measurement showed about five inches shortening in the limb.

April 16th. The patient was etherized, and after an ineffectual attempt at straightening the limb by the use of Dr. Bradford's lever a formal excision was done and a wedge of bone removed. The bones were not nailed nor wired together, and the usual dressing was applied.

April 30th. The incision was healed by first intention, and the convalescence has been steady and satisfactory. At the present writing the limb is still in plaster, but weight can be borne on it in walking, and it promises to be a useful leg, with surprisingly little more shortening than it showed in the flexed position, now measuring only a little over five inches shortening.

The operation in each case was done by the semilunar incision, and except in Case IV the patella was left undisturbed. In that case it was removed, as it was much increased in size.

The technique of the operation was perfectly simple, and was done without the Esmarch bandage in every case, because in that way the amount of after-bleeding is much diminished. When the bandage is used after its removal the paralyzed capillary vessels pour out blood and serum for hours, often at once staining through the outer layers of the dressing and necessitating redressing, while in operating without the bandage and tourniquet the bleeding has proved very slight, and only a few small vessels have been tied.

After the dissection of the flap a wedge of bone was removed with the saw and the bony surfaces brought in contact. If the limb was not then in a straight line another slice of bone was removed to bring the bony surface into the proper plane.

Nailing the bones together was, perhaps, as satisfactory a means of fixation as any, but it was far from secure, and was attended by much bother in extracting the nails when the skin had healed over them, as it did in these cases. It has apparently answered just as well to let the bones lie in contact without any nailing or wiring, as the dressing is to be left undisturbed for some weeks if possible.

A bone drain was used in each case, which was absorbed readily, leaving temporarily, however, a slight sinus behind it which was of no account. All the cases were free from septic symptoms and pain, and were but little affected by the length of the operation.

— San Francisco is to have a new quarantine station, for which Congress has appropriated \$125,000.

FOOD, DRUGS AND THEIR ADULTERATIONS.

BY R. F. DAVENPORT, M.D.

ANALYSIS OF TINNED MEATS.¹

DR. WARDEN and the other chemists of the laboratory of the chemical examiners' department, at Calcutta, have recently reported the results of their examinations of seven brands of canned meats. Compared with König's analyses of fresh meat, it appears that, while the moisture in the canned meat is in most cases less, the fat is usually more than is present in fresh meat. The albuminoids also are higher in the canned meats than in the fresh; but on making a comparison when both are freed from moisture and fat, the following differences appear:

Mean of all tinned beef	87.062
" " " mutton	87.187
" " fresh cow and ox beef	93.936
" " " mutton	93.812
" " tinned meat samples	87.124
" " fresh "	93.874

The canned samples are distinctly lower in albuminoids than the fresh meats, and taking that as representing their nutritive value, are of so much less worth. These results, then, generally confirm those of previous analyses, indicating the lower nutritive value of tinned as compared with fresh meat.

COMMERCIAL PEPTONES.²

They are generally prepared by the action of pepsin and hydrochloric acid upon meat, and vary greatly in their composition. Some are a light yellow amorphous powder, such as Witte's and Grüber's, and consist almost entirely of peptic albumoses, with but a small portion of true peptone. Some preparations appear as a thick, moist, yellowish-brown mass, with no trace of true peptone, such as Kemmerich's and Koch's. Others, fluid as a syrup contain only a small proportion of peptone, yet have an aroma of cocked meat, and are rich in stimulating extractives.

The recent results obtained by Dr. S. Martin confirm the former observations of Professor Kühne that most of the protein substances in commercial peptones consist, not of true peptone, as physiological chemists now understand that term, but of its immediate precursor in peptonic digestion in the stomach, which they term albumoses. It may be that the administration of artificial food in the form of albumoses has the advantage of still leaving to the stomach the slight labor of completing their conversion into peptones. Yet this would not be true unless peptone is the form in which proteinoids are absorbed.

The heterogeneous form in which proteinoids are usually presented to the stomach for conversion into albumoses and peptones are the coagulated myosin of meats, the casein of milk, the partially coagulated gluten of bread, and the large glass of vegetable albumoses which differ from animal varieties in that they probably have to undergo some change before assimilation. It has generally been accepted that peptone, the end product of gastric digestion, is the particular form in which protein food is assimilated, but it is not now considered as proven, from the fact that the substances used in the former feeding experiments are now known not to have been peptones as now understood, but rather albumoses.

¹ Chemical News, June, 1890, pp. 291, 303.² British Medical Journal, December 7, 1889, p. 126.

Considering now for convenience that the term peptone shall include the soluble products of gastric digestion, both albumoses and true peptone, then Brücke stands alone in denying that proteinoids are absorbed as peptones. The experiments of Plosz and Maly seem to indicate that such peptone has the same nutritive value with dogs as the ordinary proteinoids of their food at least for short periods. It does not, however, hold so true for prolonged feeding, for Voit found that rats fed upon peptones, fat and carbohydrates succumbed at the end of seven months. His results, however, may admit of several explanations. Kühne found that in gastric digestion two kinds of peptones were formed. One of them with pancreatic juice would not, and the other would split up into leucine and tyrosin, products so far as at present known of no nutritive value. During natural digestion there is at no time any considerable quantity of peptone present in the stomach. It is absorbed or passed in solution through the pylorus as fast as formed. If, therefore, a larger quantity of peptone were given at once than could readily be absorbed, and thus a considerable portion of it passed the pylorus, and were acted upon by the pancreatic juice being thus changed into leucine and tyrosin, its nutritive value would then be largely reduced. It may well be that thus much of the peptones given during prolonged experiments have in this manner been wasted. This possibility is well worth considering in feeding patients with peptones. The effect, however, of pancreatic admixture is probably avoided in rectal administration. The partially peptonized foods also avoid the loss incident to the presence of overmuch peptone.

Kühne finds the peptones formed by pancreatic digestion differ in some respects from those formed by the gastric, and he therefore calls them tryptones. These differences seem to be more nutritive than chemical. Peptone, although present in stomach and intestines, are not to be found within the tissues themselves, nor in the lymph and venous blood, and it is doubtful if in traces in the arterial as has been claimed. They must, therefore, have been changed at least in the act of absorption. Hofmeister has shown that it happens within the mucous membranes, and Ott that it changes into serum albumin. Frailein, Popoff and Brücke have recently shown that peptones may be changed by the action of mucous membranes into a nutritive fluid for sustaining the continued action of a frog's heart, while pancreatic tryptone, neither before or after such action, would serve this purpose.

PROXIMATE ANALYSIS OF COMMERCIAL PEPTONES.³

M. Denayer proposed the following scheme of separation for the important albuminoiodides of these preparations, especially the gelatine-chondrin, as he calls one of them. They are all so closely allied that but few reagents will serve to cause a separation with comparative ease and rapidity. His plan is to first add to the solution of the peptone some double iodide of mercury and potassium, which he claims will precipitate only the albumose. The filtrate, after concentration, is treated with an excess of a saturated solution of ammonium sulphate, and then gradually brought to a boil. The gelatine is thus coagulated upon the walls of the containing vessel. Rapid washing with cold water will remove the small quantity of entangled iodide, but still leaves a little sulphate. The precipi-

³ Revue Internationale des Falsifications, Pt. x, p. 165.

tate is then dried, weighed, and then dissolved in hot water, and the ammonium sulphate present determined by means of a normal standard solution of barium chloride, and deducted from the first weight. This is apparently the novel feature of his scheme. He secondly precipitates the albumoses and gelatine by saturating some of the solution with ammonium sulphate. Washes them upon a tared filter with some more of the ammonium sulphate solution, dries and weighs the precipitate, and then determines and deducts the adhering sulphate as before. He, thirdly, having exhausted a portion of the peptone with 95 per cent. alcohol of all of its kreatin and other extractive bases, which he determines in the evaporated residue of the alcoholic solution, dissolves the peptone in water, and then precipitates the albumoses, gelatine and peptone with phospho-tungstic acid. This is dried, weighed, ignited, and the ash deducted from its first weight. From the three results obtained by these three precipitations, the percentages of albumose, gelatine and peptone are readily deduced. The author's results agreeing closely with those obtained by the estimation of the nitrogen. The following results thus obtained show the relative composition of some preparations:

	Peptone of purified meat albumen.	Peptone of egg albumin. ^a	Peptone direct from meat.
Peptone	37.675	34.700	25.857
Albumose	31.300	53.200	15.964
Gelatine	none	none	9.826
Definite comp.	5.525	5.930	29.972
Mineral salts	8.285	1.625	18.386
Water	10.330	4.625	none
Insoluble matter	9.965	3.980	none

SHOULD BEER BE DRUNK OUT OF GLASS?

A spirited contest has for some while been waged in Germany between the beer-glass and the stone-mug factions. Dr. Schultz claims to have established, by a very extended series of experiments, that beer, by as little as five minutes, standing in any glass, even when cold and in the dark, will be materially affected both in taste and odor. He sustains his claims by trial tests confirmed by some one hundred persons. The change, he thinks, is due to the slight solubility of the glass substance in the beer. This is of further importance from the fact that the glass most generally used contains lead, which has been added for its better and more easy manipulation in manufacture. From a series of experiments made upon glasses obtained from the leading sources of supply, he determined that one cubic centimetre of beer, by five minutes standing in glass, dissolved 6 to 26 ten-millionths of a milligramme of the glass substance containing 0 to 48 thousand millionths of a milligramme of lead oxide. This small quantity of glass substance he claims affects the taste of the beer, and if it also contains this lead, renders it objectionable from sanitary reasons. He recommends for use as a normal test a drinking vessel, whereby one can surely and easily determine the fitness or unfitness of any other vessel, a silver mug gilded upon its inner surface. The beer to be first tasted out of the silver mug, and then out of the other vessel. He gives the following comparative scale of fitness for beer vessels as made out of different material: All lead-glazed mugs are to be wholly excluded. Covered salt-glazed stone mugs he ranks as good, but tin ones as better, and gold-lined silver mugs as the best.

^a Mittheil. d. Versuchstation f. Brauerei u. Malzerei in Wien.

Hard lead-free glass he ranks as poor, but soft-pressed glass as still poorer, and poorest of all lead glass, either pressed or blown. Porcelain, even that made at Meissen, he thinks not serviceable. Wood mugs are doubtful on account of the pitch varnish, which, even if it should not flavor the beer, yet is liable to induce loss of sleep and headache.

Dr. Schultz's conclusions have been discussed and disputed by Prof. Dr. F. Linke.^b He claiming that, according to Schultz's own showing, 20,800 litres of beer out of the very worse kind of lead beer-glass must be drunk within fifty-seven years, in order to take in even one milligramme of lead oxide into the body of one drinking a litre of beer a day. From an average quality of lead glass, it would take 74,000 litres and two hundred and three years to accomplish the same. Moreover, he claims that Schultz's lead quantities are seventy-six times too great, and that, therefore, it would require that much longer time to imbibe that small amount of lead.

A NEW BUTTER SUBSTITUTE, FAT FROM AFRICA.^c

M. Heckel and Schlagdenhauffer have discovered and reported upon a certain Spanish broom-like bush, native of the west coast of Africa, which belongs to the Polygalaceae family, and to which they have given the specific name of butyracetum. The native name of the bush is Malonkang or Ankakuki. Its seeds yield 17.5 per cent. of a yellowish butter-like fat of a very agreeable nutty flavor, and which could well serve as a substitute for butter. The fat softens between 28 and 30° C., beginning to melt at 35°, but does not become fluid below 52°. Upon cooling it remains fluid for a long time, only beginning to solidify at 33°, when it regains its original consistency. Its density at between 35 and 38° C. is 0.904. It saponifies very easily with alkalies, and contains 31.5 per cent. olein, 4.8 per cent. free palmitic acid, 57.54 per cent. palmitin and 6.16 per cent. myristin. It contains small quantities of formic and acetic acids, but no butyric or valeric acid, and therefore it does not easily become rancid.

CONGO COFFEE.^d

L. Reuter reports that Congo coffee contains no caffeine, and that its coloring substance is also different from the ordinary coffee. He does not, however, say whether he found it to contain any other alkaloid.

Reports of Societies.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

GEORGE H. MONKS, M.D., SECRETARY.

REGULAR Meeting, Wednesday evening, May 2d, DR. E. H. BRADFORD in the chair.

DR. C. B. PORTER showed a patient upon whom had been performed

AMPUTATION AT THE SHOULDER-JOINT FOR SARCOMA.

The result was a very satisfactory one, and the wound was practically healed. The history of the case is as follows:

^a In Sprechsaal, Organ der Porcellan, Glas. u. Thouwaaren Industrie, 1890, No. 17.

^b Jour. Pharm. et Chém., 1890, 148.

^c Pharm. Ztg., 1890, xxiv, 473.

The patient, a man of twenty-five, during November, noticed in his forearm for the first time a bunch about three inches above the lower end of the ulna. He had sprained his wrist some time before. The swelling increased rapidly in size, and the patient went to the Out-patient Department of the Massachusetts General Hospital for advice. At that time there was a general enlargement of the lower end of the forearm, which seemed to include both radius and ulna. The swelling was the size of a hen's egg. There were no enlarged glands. There was some pain in the arm and stiffness of the fingers. Amputation was advised, but the patient would not consent to it. He left the hospital, and on the next day allowed his family physician to enucleate the tumor. Some days later the patient appeared at the hospital, the wound from the operation being in a highly inflamed state. As soon as the acuteness of the inflammation had subsided under appropriate treatment, the patient agreed to an amputation, and Dr. Porter took off the limb just above the condyles of the humerus. Before the operation wound had entirely healed, there was a recurrence of the disease in the stump. In the mean time the patient had left the hospital. He returned on April 22d, requesting an operation, and stating that he preferred to die in that way than by the terrible pain with which he was tortured. Besides the nodules at the end of the stump, there was a large mass of disease in the axilla and a fulness in the supra-clavicular space. There was a general tenderness about the shoulder, stump and axilla. After consultation with Drs. Warren, Beach and Richardson, Dr. Porter decided to amputate at the shoulder-joint. On April 23d, therefore, ether was given to the patient; and, as a preliminary step, the subclavian was tied in its third part on the subclavian triangle. Amputation at the shoulder was then done by the "deltoid flap" method. This flap was formed by transfixion, after which the head of the bone was disarticulated, and a short axillary flap was made. The incision was prolonged along the lower edge of the clavicle and the pectoral muscles turned downwards and inwards. From beneath them a large mass, including glands and fat, was dissected out. The bleeding gave no great trouble. The flaps were united with silk sutures and bone drains were inserted. The operation lasted one hour and a half. A dry dressing, with compression. Six days later the dressings were removed for the first time, and the wound had practically united by first intention, the drainage-tubes having been absorbed. The stitches were taken out, and a light, dry dressing was applied. Two or three days later the patient was up and about the ward. A microscopic examination (by Dr. W. F. Whitney) of the affected parts of the stump and glands removed showed them to be made up principally of masses of large round cells, with a little intercellular substance. A slightly lobulated character was given them by fine bands of connective tissue. The diagnosis was "large round-celled sarcoma."

DR. J. W. ELLIOT said: I happened to see this patient in the Out-Patient Department four weeks after the injury to his wrist, and there was a swelling there which in appearance resembled a swollen Colles's fracture, and yet the bone itself was so thickened and so widened that we all believed that it was a case of sarcoma of the wrist. By a very strange coincidence, while in charge of Dr. Porter's ward this winter, I

had a case almost exactly the same as this. I happened to have seen the patient at my office October 26th, and he had a small epithelioma on the outside of the arm. This epithelial growth was removed from the arm in November, by Dr. Cabot, at the hospital. Later, the patient came to my office again, and there was then a large mass of glands in the axilla. He was admitted to Dr. Porter's ward in the hospital when I was in charge temporarily. I did almost the same operation as Dr. Porter did in his case. Instead of ligaturing the subclavian, however, I opened the axilla, cut away the pectoralis major and minor, and tied the axillary artery in its very upper portion; then I dissected out the mass of glands in the same manner as Dr. Porter did, and amputated the arm at the shoulder. This patient recovered, and is still without return, I believe.

When the question of amputation at the shoulder-joint came up, there were various opinions as to whether it would pay to amputate for such disease; and, of course, the serious nature of the operation and probability of return were brought up against it; but one argument, which Dr. Porter brought forward, seemed to me to be a good one, and that is, that if you leave the arm on (it was suggested by one of the surgeons to take out the axillary glands, and leave the arm so that the patient might use it as long as possible), it would very shortly begin to swell, and be not only a useless member but a very cumbersome one; and, as the other arguments seemed to me very evenly balanced, this had great weight in making up my mind to operate as I did; and as three months have elapsed and the disease has not returned, I am very glad the operation was done.

DR. PORTER: One word explanatory of why I tied the subclavian before the operation. It was for the sake of saving blood. It seemed to me that it was not a difficult operation to do, that it would control the hemorrhage, and that if, on the other hand, we tied the brachial at the point where it would be divided in the ordinary amputation at the shoulder-joint it would delay the operation, and also necessitate considerable loss of blood. The operation was completed in seven minutes, and the bleeding was very slight.

I think what Dr. Elliot spoke of as one of the principal arguments for the removal of an offending member like this is an important consideration; for where the axilla has once become invaded by glands, the pressure upon the circulation and nerves produces so much swelling and pain that the limb is a constant source of trouble to the patient. This patient had been using large quantities of morphine and of stimulants to overcome the pain. The morphia was discontinued after the first day following the operation, and the patient now states that he has no pain.

DR. O. K. NEWELL: In connection with Dr. Elliot's operation, I think there is one advantage in tying the axillary high in this operation and that is, that you avoid the risk of wounding the thoracic duct when the operation is on the left side. That is one of Billroth's precautions.

DR. M. H. RICHARDSON: I have made a great many dissections of the duct with reference to the special danger of cutting it in operating. I saw the duct cut once by one of the students in Dr. Porter's operative course. I think it goes much higher than the body of the sixth cervical vertebra sometimes, and is well protected by the oesophagus, and then takes a

turn to the left. I never saw a case in which the thoracic duct came near the third part of the artery.

DR. NEWELL: That is a point always taken in operative courses in Europe. The thoracic duct empties at the junction of the internal jugular and subclavian veins. In the living subject it may have a very tortuous course, and wind around in that space, so that it is always to be seen in the subclavian triangle. A simple and safer procedure is to ligate the axillary high up.

DR. PORTER: From a surgical standpoint, ligation of the axillary high is a much more difficult operation than is ligation of the subclavian in the third part, with the thoracic duct practically separated from the artery by the thickness of the scalenus anticus. It seems to me if the anatomy of the part is followed correctly, there is no danger of injuring the thoracic duct in the ligation of the subclavian in its third part.

DR. BRADFORD: Were there any enlarged glands above the clavicle in this case?

DR. PORTER: One gland was found, and examination proved that it was infiltrated with sarcoma cells in the same way as the glands in the axilla.

DR. ELLIOT: As I watched Dr. Porter's operation, it seemed to me it was a very even question as to whether it was better to tie the subclavian first or not. In my operation I simply opened the axilla, took off the pectoralis major and minor, and, before I had dissected away the glands at all, I saw the artery high above the glands under the clavicle and tied it very easily. Certainly there was no trouble about hemorrhage, and I could have tied it higher, if necessary, in the same wound.

DR. G. H. MONKS demonstrated

A NEW METHOD FOR THE TREATMENT OF INJURIES TO THE SHOULDER,

and showed several patients in whose cases he had, with the co-operation of Dr. A. K. Stone, successfully employed it. About twenty-five cases were reported, including some in which rheumatism undoubtedly played a prominent part. In most of the cases the ordinary methods of treatment had been tried in vain. The result was a more or less perfect cure in about two-thirds of all cases tried in a period of time varying from a few days to a few weeks. The most hopeful cases were those which were purely traumatic. The principle involved in the treatment was that the shoulder is more perfectly in a condition of actual rest when the arm is supported at right angles to the trunk, than when the elbow is kept at the side, because (1) the weight of the upper extremity is thus entirely taken off the shoulder, (2) the deltoid and other structures covering the joints are relaxed, and (3) the circumflex nerve and other deeply seated structures are relieved from pressure. In applying this method of treatment, the whole weight of the upper extremity is taken upon a platform-shaped splint, which is supported by a firm band of webbing passing over the other shoulder. The cases for which this form of treatment is especially adapted are those where the prominent symptoms are persistent pain and tenderness in the shoulder, or inability to raise the elbow from the side.

DR. RICHARDSON said: It seems to me that any apparatus or method of treatment, which offers any benefit in these obstinate cases of pain in the shoulder, will be very welcome indeed to the profession. I

would like to ask as to the effect of this in that condition of the shoulder described by Dr. T. B. Curtis as "periarthritis." I do not refer to rheumatic cases, but to cases in which, on lifting the arm, the shoulder goes with it.

DR. MONKS: Unfortunately I have not thus far had a case of that kind.

DR. RICHARDSON: That class has been most obstinate in my experience. I do not remember any good results by breaking up adhesions, or by any operative procedure. I have seen stiff shoulders result, and in one case, caries of the joint. In many of these cases, it seems to me from my observations, that the pain is due to inflammation of a large bursa under the deltoid near the head of the humerus, which is probably, like many other deeply seated bursa, frequently inflamed. It seems to me that Dr. Monks's apparatus would relax the pressure on the bursa better than anything else.

DR. BRADFORD: I think we can hardly recognize of how much value this may be. The mechanical appliances that have been used for these cases of painful shoulder have been very few. Dr. Marsden, of Roxbury, devised a somewhat similar splint for cases of fracture. The splint was to exert traction much on the same principle as in Buck's extension for fractures of the femur. It was used at the time of the war to a limited extent, and is figured in the surgical records of the War of the Rebellion. Dr. Thomas, of Liverpool, has a splint which he has used, I don't know with how much success. Then, of course, there is the cushion devised by Strohmeyer. The nearest approach to the splint of Dr. Monks is the appliance of Dr. Taylor, of New York, for cases of paralysis of the deltoid in children. I remember seeing a patient for whom he made a very pretty appliance which was worn by the child about six months. It was used for infantile paralysis of the deltoid, but I think without any benefit. It was not worn at night. Supposing the cases reported to be sprains of the shoulder-joint, slight synovitis, the method seems to be very rational, so rational that it is strange it has never been done before. It relaxes the muscle, and it is spasm of the muscle which causes pain in the earlier stages. I should think it might be used in some of the more chronic cases.

DR. MONKS: The special kind of splint which has been used in most of the cases reported is one which was designed, at my request, by Dr. Stone.

DR. ELLIOT showed

A PIECE OF INTESTINE FOUR AND A HALF INCHES LONG WITH SIX GUN-SHOT HOLES, and said: The bullet went in and out three times. The specimen is from a case of gun-shot wound in a gentleman who was shot at short distance with a revolver. I do not remember the calibre, but the wound in the abdomen was so large that in the exploration to determine if it was a penetrating wound, my finger went directly into the abdominal cavity, and with the scissors I did a laparotomy at once.

DR. M. H. RICHARDSON reported

A CASE OF GASTROTOMY FOR THE REMOVAL OF FOREIGN BODIES.¹

DR. BRADFORD: I wish to mention a case which was related to me by a physician from one of the neighboring towns: A child was brought to him who

¹ See page 177 of the Journal.

had swallowed an ordinary shawl-pin with a large beaded head. The patient was brought with the point of the pin protruding through the abdomen. The mother wanted the doctor to take out the pin. He was rather puzzled what to do, but finally he pulled the pin out firmly, and then with a pair of bone-pliers he cut it off. A couple of days later the head was passed by rectum. The case is interesting simply as showing what ingenuity may do to help one out.

Dr. RICHARDSON: I have collected all the cases ever published of foreign bodies. In a great many the sharp instrument worked out. It ought to be said that while a certain number of these do work out safely, a large number are fatal either from peritonitis or perforation of a large blood vessel.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED Meeting, May 19, 1890. The President, **GEORGE T. HARRISON, M.D.**, in the chair.

Dr. PAUL GIBIER, Director of the New York Pasteur Institute, read a paper on

BESTACTIONS PRODUCED BY THE ANTI-HYDROPHOBIC PASTEUR INOCULATIONS, AS DESCRIBED BY INOCULATED SUBJECTS.

He said that following in the steps of those connected with other anti-rabic institutions, in order to ward against a possible accidental inoculation during these daily manipulations of virulent matter, he had inoculated himself and two of his assistants. A lad attached to the laboratory was also inoculated; but while the latter complained only of a local sensibility, of fatigue, and of a little nocturnal disturbance, the physician, being more accustomed to observation, noted several other points about the effects of the inoculations which seemed worthy of record.

The series of inoculations began March 27, 1890, with marrow of the fourteenth day, and ended April 10th, with the matter of the second day. The subcutaneous injections of the first four days were followed by a slight irritation which, in one of the subjects, extended as far as local redness of the integument, but without induration. During the night sleep was somewhat disturbed by the sensitiveness of the seat of inoculation in the lumbar region; and for the first ten days the symptoms were about the same. The body temperature rose slightly; but whether this mild febrile reaction was due to the irritation of the injected matter or was the result of the slight inflammation caused by the injection itself, it was impossible to say. These symptoms were considerably modified by hot baths of long duration. Towards the tenth day the tissues seemed to have accustomed themselves to the injected liquid, the reaction was less acute, the pain decreased; and three days after the last injection there remained scarcely any local trace of the fifteen injections made on each side.

At this point Dr. Gibier took up the question of the manner in which immunity is obtained, and stated that in a book of his published last year in Paris he had offered the explanation that it was probably the result of a sort of automatic memory on the part of the living cells of the body. Each time these cells were attacked by a malady, he said, they recalled how they had gotten rid of the intruding microbe which attacked them, and when next assailed they knew immediately

what measures were necessary to prevent the enemy from obtaining a foothold. In this connection he remarked that the recent work by Metchnikoff on the part played by the white corpuscles in the case of inflammation produced by bacteria certainly seemed to afford strong evidence of the correctness of this hypothesis.

In order that the nervous centres should be protected against a mortal attack of rabies it was necessary (for the purpose of forestalling the progress of the microbe) that other microbes of the same species, but attenuated, should be placed in contact with the cells of the spinal cord and brain. The first subcutaneous injections were made with the matter the prolonged desiccation of which had caused its virulence to disappear; but it was not unreasonable to admit that the nerve cells must be influenced in a measure by the ptomaines secreted by the hydrophobic microbe, and that this is likely to give it a certain amount of power (through its being accustomed to its secretion) to resist the attack of microbes, at first weak and then more and more virulent as introduced by the successive injections. When after having followed (as shown by observation) the nervous fibre going from the bitten spot to the cord, and thence to the brain, the infection germ reached the nerve cells of the cerebro-spinal axis, it found them fortified, as it were, against the attack, or that it could not do them any harm. In other words, immunity had been established. As demonstrating the fact that during anti-rabic inoculations such a course of events as that just described takes place, he brought forward the fact that his two assistants and himself all experienced during the inoculations a series of phenomena indicating that certain departments of the nervous system were stimulated into special activity by some unusual excitement.

During the time Dr. Gibier was taking the inoculations, and for a few days afterward, he observed a greater activity of the salivary glands than normal. Several times a day he felt the saliva welling into his mouth in such quantities that it became filled, and he was obliged to eject it. This symptom, which was also noted in the case of his assistants, was evidently a sign of excitation of the medulla oblongata. He recalled that in 1884 he had observed that polyuria was a frequent symptom in rabbits inoculated with the virus of hydrophobia. During the last week of the treatment and the week following he felt a certain heaviness of the head and an inability to work. This was also the case with his two assistants; but in them there were additional symptoms. Thus, on the fifth day, when inoculated with the marrow of the sixth day, one of them (M. Roger) complained of sudden pain in his right side, lasting about half an hour. On the eighth day (when inoculated with the matter of the fourth day) he experienced dizziness, and this lasted intermittently for fifteen days. On the twelfth day he felt pain in the lumbar region which extended as far as the right testicle. On the fourteenth day the vertigo was accompanied by buzzing in the ears, and he found walking difficult. Since the treatment, however, it was a fact that he had been relieved of a chronic dyspepsia, with pyrosis, and the bowels had also become more regular than before.

The other assistant (M. de Mouchy) was more affected with nervous troubles. From the second injection he felt pain in the nape of the neck. On the fifth day this pain spread into the brachial plexus, and after the

ninth inoculation some fulgurating pain was experienced in the region of the left crural nerve. On the twelfth day he suffered from a frontal cephalgia and an exacerbation of the pains at the nape of the neck. These symptoms continued for about fifteen days after the treatment had ended, and were accompanied by unusual sexual excitement, melancholy, preoccupation of mind, and vague pains in different parts of the body. The appetite, however, was always good.

Finally both the assistants were affected, on or about the fifteenth day following the last inoculation, with pains in the spots where the injections were made; and these pains were so acute as to suddenly awake them in the middle of the night. Dr. Gibier said he desired to call special attention to this circumstance, because in one case where an inoculated person died of hydrophobia, in spite of the treatment, the adversaries of the Pasteur method took advantage of a similar fact — that the patient had complained of pain at the spots where the injections were made — to claim that hydrophobia had been communicated to him by means of the inoculations. It could be seen, however, that these injections were capable of causing acute pain some time after they had been made without giving rise to hydrophobia. At the present time, nearly one month after the last inoculation, all three were in a perfect state of health.

In conclusion, he said that the sixteen persons who had thus far been inoculated at the New York Pasteur Institute were enjoying good health, while several domestic animals bitten by the same dogs which attacked several of these individuals had died of hydrophobia. A man bitten by one of these dogs, and not treated at the institute, had also died of the disease.

Dr. H. M. BIGGS said that, although almost from the very first he had felt confidence in the preventive efficacy of Pasteur's inoculations, it had always been a matter of surprise to him that in a disease associated with such extremely severe nervous phenomena as rabies, a system of inoculation against it which appeared so successful should be attended by such comparatively slight symptoms. During the past winter he had sent to Pasteur two children who had been bitten by a dog known to have rabies; and on the most careful inquiry, he could not learn that they had suffered from any symptoms of any importance whatever, except the local ones due to the irritation of the injections. The same was true in regard to a number of other inoculated patients whom he had had the opportunity of questioning.

In the case of the two children referred to, the history of rabies was perhaps the most complete that had ever been reported in this country. A dog with rabies bit two other dogs, one very severely and the other but slightly. The dog that was severely bitten was afterwards taken with the disease, and died with all the usual symptoms. The dog that was slightly bitten, was also sick for several days with all the characteristic symptoms of rabies; but it then recovered. Both these dogs were kept under close observation. Through the carelessness of an attendant the two children mentioned were allowed to come within reach of the animal that afterwards died of the disease, and they were both severely bitten by it. Furthermore, rabbits were inoculated with virus, not only from these two dogs, but from the first one, which had bitten them; and they all died in consequence. The children were treated by the Pasteur inoculations in Paris dur-

ing January last, and at the present time they are in excellent health.

Dr. GIBIER said that the case of the dog mentioned by Dr. Biggs, which had recovered after having had all the characteristic symptoms, was by no means an isolated one, as he himself had known of at least ten instances of recovery in dogs. While in dogs, however, it was the exception that recovery took place, in other animals, and especially birds, this was the rule. Thus chickens, for instance, very frequently recovered from the disease.

Recent Literature.

Surgical Bacteriology. By NICHOLAS SENN, M.D., Ph.D., Professor of the Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Cloth, pages 270. Thirteen colored plates. Philadelphia: Lea Brothers & Co. 1889.

This volume is a reprint of the paper read by its author at the annual meeting of the American Surgical Association in September, 1888, under the title of "The Relation of Micro-organisms to Injuries and Surgical Diseases." Bacteriology has revolutionized surgical pathology, hence its importance to the science and practice of modern surgery. The first sixty-six pages treat of general subjects, namely, the hereditary transmission of microbial disease; the existence of pathogenic micro-organisms in the healthy body; sources of infection; microbial localization; elimination; and antagonism. Then follow the chapters on inflammation, suppuration, gangrene, septicemia, actinomycosis, gonorrhoea, and finally syphilis. The book concludes with a chapter on the alleged microbial origin of tumors.

The object of the writer has been to present his subjects as concisely as possible, and at the same time to omit nothing that is essential to a fair knowledge of it. A difficult task, considering the mass of literature published during the past few years. There has been such extended investigation and so much careful study in this important department of medicine; so much has been written, and opinions have undergone such radical changes during this time, that the active surgeon will gladly welcome a review which will give him, in a concise form, the actual results obtained by bacteriologists. The book is such a *résumé*.

It is a neatly printed, well-arranged volume, and is well illustrated by plates, mostly colored, which are reproductions from the "Lehrbuch der pathologischen Anatomie" of Professor Klebs.

The Principles and Practice of Surgery. By JOHN ASHWURST, Jr., M.D., Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania, etc. Fifth edition, enlarged and thoroughly revised, with 642 illustrations. Sheep, pages 1148. Philadelphia: Lea Brothers & Co.

The author's preface declares the object of this work to be to furnish in as concise a manner as may be compatible with clearness, condensed but comprehensive description of the modes of practice employed in modern surgery. Also the principles on which these modes of practice depend. The new edition resembles closely in its general arrangement its predecessors. The additions are estimated at about one-

eleventh of the last edition, and consist of new subject matter, with numerous illustrations. The chapter on Diseases of the Eye is by Dr. George E. Schweinitz. That on Diseases of the Ear by Dr. B. A. Randall. Both have been thoroughly revised. The remainder of the work has been done by Professor Ashhurst himself. The book is a valuable one, and is well arranged; but so encyclopedic a field cannot be satisfactorily condensed into a single volume. A book so written becomes a mere dictionary or manual, and is inferior to the excellent treatises (now in the hands of the profession), which treat solely of special subjects. It is a book adapted to the use of the medical student, rather than the hospital or general surgeon. Aside from the above criticism the volume excites only commendation. It is remarkable how much valuable information is condensed into and lies hidden in its pages.

A Treatise on Orthopedic Surgery. By EDWARD H. BRADFORD, M.D., and ROBERT W. LOVETT, M.D. New York: William Wood & Co. 1890.

A clear and thorough exposition of modern views and methods in the mechanical and surgical treatment of deforming diseases has long been a desideratum. Orthopedic surgery has made great advances in the past decade, and until the appearance of this work, the student or busy practitioner was obliged to hunt through pamphlets and medical journals to learn the latest and best treatment of diseases of this sort. In the present work this want is admirably supplied.

The writers have properly included in this treatise a consideration of many diseases of bones and joints which are usually not dealt with in the earlier works on orthopedics, but which require the skilful use of surgical apparatus for their successful treatment, and which, therefore, so often fall into the hands of orthopedic surgeons. It is also of interest to learn from authors familiar with the resources of mechanical treatment, a statement of the conditions under which the conservative methods must be assisted by surgical interference.

The chapters on Pott's disease of the spine, hip disease and diseases of the knee-joint cannot fail to be of interest to the general surgeon, and he will here find the most advanced, often original, ideas for their mechanical treatment.

The descriptions of apparatus and of operative procedures are precise and easily understood and are further made clear by abundant wood-cuts.

It would be well if all parents and school teachers could read the chapter on lateral curvature of the spine. They would here find the mechanism by which this most distressing deformity is brought about discussed at full length and the method of its prevention thoroughly treated. The nature of the gymnastic exercises which correct the tendency to this deformity is also explained, and the principles here laid down should be thoroughly mastered by every school principal who has the physical well-being of his pupils at heart.

The Boston Children's Hospital is a comparatively young institution, and this book produced by two members of its staff is a signal proof of the activity within its walls.

Hygiene of Childhood: Suggestions for the Care of Children after the Period of Infancy to the Completion of Puberty. By FRANCIS H. RANKIN, M.D., President of the Newport Medical Society, Member

of the Newport Board of Health, Fellow of the Rhode Island Medical Society, etc. New York: D. Appleton & Co. 1890.

Very few words are needed, beyond giving the headings of the chapters, in reviewing this admirable little book on the hygiene of childhood. No fault can be found from the beginning to the end of a work which is the best of its kind which has as yet appeared in medical literature. It is in every sense scientific, practical and concise, and can safely be put in the hands of all classes, professional or non-professional, which in itself indicates an unusually thoughtful and well-written book. In the space of one hundred and forty pages it covers sufficiently, without saying too much, such subjects as Dietary during Childhood, Protection of the Body, Importance of Pure Air, Exercise, Sleep, Regularity of the Bowels, Care of the Skin, Education, School Hygiene, Discipline and Puberty.

Dr. Rankin is to be congratulated on his simple rendering of a subject which other writers have failed to make simple, and therefore have not succeeded in producing a work suitable for the general public.

Outlines of Practical Histology. By WILLIAM STORLING. 12mo, pages xiv, 339, with 344 illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

This text-book is very good indeed, and will undoubtedly be widely used in histological laboratories and by medical students. It gives a very sensible and judicious account of the working materials of the histologist, and offers the student reliable advice as to microscopes, microtomes, reagents, etc. The greater part of the book is occupied by a series of chapters describing the tissues and organs. The descriptions are admirably drawn up, being concise, clear, and sufficiently exhaustive, with a few exceptions; each chapter also contains a goodly number of special directions for making illustrative preparations, a large and well-chosen assortment of which is figured in the text. It will thus be seen that in plan the work does not differ from other students' manuals of histology, but the plan is so well executed that we may accept the book as the best we have in English. It contains, however, more than the ordinary student of medicine requires, not in the way of description, but in very numerous special directions for making preparations. These, however, greatly increase the usefulness of the book in the laboratory and for more advanced workers.

As a defect we must consider the omission of an adequate account of the uterus — what is given is decidedly of a perfunctory character — nor is the history of the spermatozoa given up to the present state of our knowledge. In the chapter on striated muscle we miss references to the protoplasmatic reticulum which determines the muscular structure, and to the branching of the fibres and their anastomoses. These deficiencies, however, still leave the book full of merit. There remains a general criticism of a more serious character. The work is purely descriptive; there is no attempt to teach morphological principles, nor to give the student insight into the laws of cellular differentiation. This is, perhaps, the province of the embryologist, nevertheless, we believe that making histogenesis the basis of instruction renders the study of histology a matter of understanding, and renders it more interesting, accessible and valuable to the student than is possible by pursuing the duller methods of descriptive anatomy.

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THE DIET OF HOT WEATHER.

The daily losses of the economy have been estimated at a mean of 20 grammes of nitrogen, 310 of carbon, and 30 of salts. To supply this waste, a quantity of nourishment is needed which may be roughly represented by 1,000 grammes of bread, 300 grammes of meat, and two ounces of butter or some other fat. Making all due allowance for differences in constitution, weight, sex, occupation, etc., a healthy man of average weight cannot vary much from this standard, in any season, without detriment.

The larger part of the hydro-carbon ingested is utilized in maintaining the heat of the body, and, according to many of our best physiologists, in supplying muscular force. The temperature of the blood must be kept constantly at about $98\frac{1}{3}^{\circ}$ of the Fahrenheit scale, and this internal heat must have its source in the metabolism of food and tissue. The same amount of muscular work necessitates the same expenditure of substance, whatever be the climate or season, so that the daily quantity of food needed to make good the organic wastes must always be nearly a constant quantity. There must be a due proportion of albuminoids, carbo-hydrates and fats.

And yet there are considerations which go to show that, in summer, and especially in the hottest period of summer, a minimum rather than a maximum quantity of food is required. The argument is based rather on experience than on positive scientific experimentation. That organic changes take place much more rapidly in cold weather than in hot, that a greater abundance of food is demanded, and that digestion and assimilation are more active in cold weather, are truisms of experience. Sir John Ross, Sir William Parry, Sir George Simpson, Lieutenant Greely and others have testified to the large amount of food consumed by dwellers in the arctic regions. "He who is well fed," says Sir John Ross, "resists cold better than the man who is stinted. In every expedition to the polar region, . . . the quantity of food should be increased, be that as inconvenient as it may. It would be very desirable,

indeed, if the men could acquire the taste for Greenland food, since all experience has shown that the large use of oil and fat meats is the true secret of life in these frozen countries."

But if appetite is enhanced in cold regions and in cold weather, and if an excess of carbo-hydrates and fats is demanded, it is a matter of common experience that, in tropical climates and in the hot season of temperate climates, the appetite flags, and digestion is retarded. People turn from the roast meats, the rich puddings and pastries, with disrelish or disgust, and demand some simpler dish — a little ripe fruit, with bread, a little lean meat and some plain vegetables, an ice-cream, a custard, a glass of milk.

But the lessened demand for food coincides with a relatively feeble condition of the digestive organs; so that in the midst of dog-day weather the abundant, rich meal of a cold winter day would be laboriously and imperfectly, if at all, digested. It is true that many persons with naturally robust stomachs insist on continuing into summer the full dietary of winter, and in pampering by various condiments and pickles — if not by claret, sherry and "bitters" — a faltering appetite. If speedy retribution, in the shape of indigestion, does not follow, such gourmands are likely later to suffer condign punishment in the form of dyspepsia, gout, plethora or polysarcia.

It is the part of true wisdom and common sense to practise moderation in regard to eating and drinking, of course, at all times, but especially in hot weather. Enough should be ingested to make good the losses — the organism must have its twenty grammes of nitrogen and its three hundred of carbon, and a good surplus may be allowed; but not much extra carbon is required to keep the internal temperature in equilibrium with the external, and tissue metabolism is certainly less active than in cold weather. Nature seems at this season to give a craving for fruits; and these certainly, when ripe, seem to be salutary, by their acids being "deobstruent" and refrigerant, and by their pulp and cellulose antagonizing constipation. The vegetables of the season, if eaten sparingly, ought to be unobjectionable; unfortunately they are often devoured before they are sufficiently mature or sufficiently cooked, or they are eaten in excess, and gastric embarrassment, diarrhoea and enteritis result. Rice seems to answer the requirements of a light, wholesome diet, easily digested, and with milk nutritious enough for hot weather; this cereal, in fact, forms the staple dietary of tropical countries. Beans, if cooked with beef instead of pork, form a wholesome and nutritious dish for an occasional summer repast; and milk, eggs, custards, creams, stale bread and biscuits are all to be retained in the bill of fare of hot weather. A little lean meat or fish, once or twice a day, seems to be required, at least by Americans. Of course, it is very important that such meats should be absolutely fresh, for poisonous ptomaines soon form in hot weather.

After all that has been said, the kind of work done

must largely control the dietary. Our haymakers and farmers who work at this season on the salt marshes still retain, amid the glowing fervors of the August sun, the *dura messorum illia*, and few of the cautionary precepts above given are rigidly applicable to them.

THE BERLIN CONGRESS.

THE International Congress at Berlin seems, from all accounts, to have been a very successful affair, especially in point of numbers. Physicians were present from nearly every civilized nation of the globe. Even France was well represented. The presidency of Professor Virchow was a marked success. He had the respect of all, and was listened to with great attention. At the opening it was announced that seven hundred papers had been presented for consideration in the eighteen sections, and more were expected. Certainly this was a larger number than even an international congress could handle with advantage. Of the value of many of the papers there can be no question; but it is at least doubtful if all of them could be called "path breaking." It is intimated by at least one correspondent who writes to a prominent daily paper, that a congress that is constituted practically of any or all who choose to attend, cannot fail to contain many men whose self-adoration is their principal claim to prominence. There must be much truth in such a statement; but the names mentioned show that very prominent men—men whose names are known the world over, have taken an active part in the business of the congress. The opportunity to see and hear representatives from such widely-separated countries is certainly a great advantage, and it is but little to say that even if no distinct and particular advance should come from the congress, the mutual understanding brought about by personal contact tends to unify and consolidate the universal profession.

Of the American representation we have reason to be proud. Dr. John S. Billings was one of the honorary presidents, presided for a time over the second general session, and read an interesting paper before the section of Military Hygiene. Dr. H. C. Wood delivered an address on "Anesthesia" before the congress. These were probably our most prominent representatives from their official connection with the congress; but five to eight hundred Americans were present.

THE QUINCY DISASTER.

THE public has just been startled by the announcement of another railroad disaster, which has caused the death of near a score of people, and more or less seriously injured many more. The accident occurred about one o'clock Tuesday. The number of injured was evidently overestimated at first, and doctors were summoned in large numbers. Many who responded to the call did so at great personal inconvenience, and only to find that their services were no longer needed.

Humanity seems to have inspired all—doctors and laymen alike—who were near enough to be of service. Residents in the neighborhood opened their houses to the wounded, and sheltered the dead.

The new hospital at Quincy has been in existence less than six months but the donor of that institution may feel repaid already for his outlay. The hospital on that one day justified its being, standing ready with its beds and surgical appliances to receive those so grievously in want of all that surgical skill could do for them.

MEDICAL NOTES.

— American surgeons are not the only ones who are subject to malicious suits. It is encouraging to learn that, whereas some time ago a hospital surgeon at Liège was cast in heavy damages (10,000 francs), in consequence of the somewhat unsatisfactory result of an operation performed on a child, the ground of the action being, not that there had been any lack of care or skill, but that the operation had been performed without the consent of the child's father, the Court of Appeal has just heard the case and given its decision, which is contrary to that of the court below, so that the defendant has at last had judgment pronounced in his favor.

NEW YORK.

— The State Dairy Commission has begun a crusade against a new kind of milk adulteration that has recently been brought to its attention, and several arrests have already been made in New York and Brooklyn. Most of the offenders are city milk dealers, although some of them are farmers and dairymen themselves. The adulteration consists in the addition of a chemical compound in the form of a nearly tasteless white powder, the exact nature of which has not as yet been made public. This substance, which is known as "preservaline," appears to have the effect of keeping milk from turning sour, and it is used in the proportion of almost half an ounce to a gallon of milk. In this proportion it adds three-eighths of one per cent. to the twelve per cent. solid proportion of the milk; and this alone would constitute an adulteration. The matter having been referred to Dairy Commissioner J. K. Brown and Deputy Attorney General Maynard at Albany, they rendered a decision that the "preservaline" was deleterious to health and without doubt an adulteration in the eyes of the law. Dr. R. D. Clark, the chief chemist of the Dairy Commission, Professor E. G. Low, and other chemists have all declared the substance is unwholesome and, when used for any length of time, decidedly injurious.

— Dr. E. W. Thwing, of Brooklyn, has just returned from a trip to China, on which he started a year ago for the purpose of investigating the field for the establishment of an insane asylum. He found the need of such an institution most urgent, as there is nothing of the kind in the whole Chinese Empire, where dissection is prohibited by law, and the native physicians, under-

standing nothing of the structure and function of the brain, are totally ignorant of the intelligent treatment of mental disease. An effort is to be made to raise \$20,000 in this country, and also a considerable sum in Europe, and Mr. John G. Kerr, an American gentleman who has resided for many years in China, is at the head of the project. Dr. Thwing states that a very desirable site just outside the walls of the city of Canton, in an elevated and healthy locality is under consideration for the proposed asylum, and that the enterprise has been met with much favor by the foreign residents especially. It is only half a century since the first hospital of any kind was established in China (at Canton), and the money for this was mostly paid by the people of Western nations. The first money paid toward the new hospital for the insane came from Japan, where they already have such institutions for such patients as are able to pay about fifty cents a day. At present there is no insane asylum for the poor there, but he says that a movement has already been started to establish one.

— The water has now been turned off again from the new Croton Aqueduct for the purposes of inspection, and the long tunnel is consequently clear from end to end. This is the first time in more than a year that the great siphon through which the water is carried under the Harlem River, and which was completed at a comparatively early period, has been made use of. Its construction was the most difficult engineering feat in the aqueduct plans, and has commanded wide attention and much scientific interest. In other aqueduct work in New York and elsewhere, rivers have been crossed by overhead structures. The siphon reverses the traditional practise, and carries the water through a section of aqueduct 370 feet below mean tide and about 450 feet below the top of the Harlem River banks. The principle that water will seek its own level is applied here boldly and on a large scale, the plunge that the water takes on the main land to reach the underground level furnishing pressure sufficient to raise the water again after crossing to a level that insures a steady flow through the section of aqueduct situated on Manhattan Island. The diameter of the siphon section of the aqueduct is a little over ten feet, or about two feet less than that of the remainder of the structure.

— Dr. William N. Blakeman, for many years a well-known physician in New York, died August 10th, in the 86th year of his age. He suffered severely from the gripe last winter, and had never recovered from its effects. He was born in Roxbury, Conn., in 1805, and graduated from the medical department of Yale College in 1832. He then removed to New York, and for over fifty years was an active practitioner, greatly esteemed and respected. He retired from general work some four years since, but still did a certain amount of consulting practice. Dr. Blakeman was one of the founders of the New York Institution for the Blind and the New York Infant Asylum, and the Society for the Relief of Widows and Orphans of

Medical Men, and of the New York State and County Medical Associations.

— The Rev. Charles Loring Brace, whose name will forever be associated with the noble work of the Children's Aid Society, of which he was the founder and up to the time of his death the Secretary, died on August 11th, in Switzerland. The amount of good accomplished by this Society since its organization in 1853 is simply incalculable. Thus, it has established lodging-houses for boys and girls in various parts of the city, where over 200,000 children have found comfortable accommodations. It has placed more than 70,000 children in good homes in the country, many of whom have since grown up to be worthy citizens. In addition, it has maintained a number of industrial schools in the city, where thousands of children have been instructed in useful employments, and for the last few years it has had summer homes at the seashore for infants and sick children; besides keeping up a free medical service among the tenement population. In 1856, Mr. Brace was a delegate to the International Convention for Children's Charities in London, and in 1865 he carried out a special sanitary investigation in the cities of Great Britain.

Miscellany.

THE BERLIN WATER AND SEWAGE WORKS.

PROFESSOR VIRCHOW's address at the opening of the International Congress at Berlin was listened to with great interest, according to all reports. In welcoming the members of the Congress to Berlin he gave an interesting account of the city's water and sewerage work which we append.

“But perhaps you will permit me to single out at least one institution for which the city of Berlin is classic soil. I mean our sewerage system, in connection with the municipal water-supply on the one hand and with the irrigation fields on the other. What a change this has made in the whole aspect of our city only those can judge who saw its streets and squares, its houses and dwellings, twenty years ago. The means expended, however, may give a general idea of the magnitude of the work. The sewerage system of the city cost 42,500,000 marks (that is, shillings), the purchase of the irrigation estates 12,500,000; the expenditure for the construction of the drains and the preparation of the fields amounted up to the end of March, 1889, to 79,000,000 marks in all. The book value of the municipal waterworks amounted at the same time to far more than 39,000,000 marks, and new works are already projected, the first half of which is estimated at 20,000,000. That makes for these sanitary works alone an expenditure of 138,000,000 marks. It cost hard struggles before the representatives of the city undertook these great enterprises: investigations of all the questions involved, lasting for years, went before; but at last the citizens of their own free conviction took their resolution, and adhered to it, even when the official authorities took a contrary view, and prophets of evil grew like mushrooms out of the earth. Thus Berlin has become a clean, a healthy, perhaps one may even say

in a certain sense, a beautiful city. Now this method of cleansing a city was no invention of ours. Many other cities had preceded us. Great waterworks were built even in remote antiquity.

"We do not claim that our works should be recognized as the best or as the only good ones. Altered circumstances always demand another solution. But what we wish to show you, and what we especially invite you to inspect, is the completeness and harmony of the arrangements which we have made. Nowhere in the world have such large tracts of land ever been used only for the purpose of cleansing the sewage waters of a city. Our irrigation fields comprise an area of 7,614 hectares. They form two large pretty well connected territories, one in the north, the other in the south of the city. In the year 1888-89 they yielded a surplus of 238,000 marks over the working expenses. You will convince yourselves that it is possible to meet Liebig's old demand that the soil, the vegetable world, or, let us say, agriculture, shall receive back what has been received from it, and even a little more. Not, indeed, the agriculturists, for though we do give sewage to some owners, it has been found necessary, for the sake of complete and constant purification, to keep the agricultural management in our own hands. Thus our city has become in a surprising degree, considering the modern division of labor, not only a great landowner but also an agricultural manager. In this way also certain possibilities have resulted which belong to the social political province, and which may probably be still further extended in course of time. The workmen on the irrigation fields are largely drawn from the city workhouse; in time they are converted from vagabonds into able workmen, earning money. The old mansions on some of these estates have been transformed into convalescent homes. Thus, without preconceived plan, the whole is developing itself more and more, on the basis of progressive experience, into a system of economic exchange of high social importance between city and country.

"Forgive me, honored Sirs, this somewhat long digression on a single group of municipal institutions. In importance, however, it far transcends all the other individual establishments and arrangements which you may study. It is, at the same time, the one which can teach more than the others how much the firm will and the cautious action of an independent community, testing step by step, and then, after thorough testing, going resolutely forward, are able to do in fulfilling the largest demands of science. And you will learn from them that almost all the great establishments which will be shown you were erected at a time when, in the opinion of some, Germany was occupied with nothing but preparation for new wars. No, gentlemen, we are honest adherents of peace. We know that peace nourishes and dissension destroys. We wish to live in concord with all the world, in order to pursue the tasks of science and the aims of humanity undisturbed, and in our own way."

OBSTETRIC HERNIA: THEIR CAUSES, SYMPTOMS AND TREATMENT.

The following is an abstract of a paper by Thomas More Madden, M.D., F.R.C.S.(Ed.), prepared for the British Medical Association:

"Ovarian hernia are amongst the most neglected, although clinically they should be included amongst the most important, of the troubles that come before us in gynecological practice. In the great majority of cases they occur downwards into Douglas's space, and in such instances the left ovary is that most frequently displaced. The next in point of frequency of these hernia are those occurring in the inguinal regions where they are either found above Poupart's ligament or as more commonly the case, follow the course of the canal of Nuck downwards and forwards, and so present in the labia where they may be readily recognized. In the former or directly downward variety of displacement, the ovary may be discovered on vaginal examination in the recto vaginal fossa as a small, oval-shaped, firm, elastic and highly sensitive tumor, bulging forward into the post-cervical *cul-de-sac*. In the larger number of cases ovarian hernia, especially those in Douglas's space, result from the *vis a tergo* of abdominal or uterine tumors, or from the tension on the appendages occasioned by displacements of the uterus.

"*Diagnosis.*—Until recently these hernia when inguinal were very generally compounded with enlarged glands; when labial with other tumors in that situation; and when downwards with pelvic abscess and hematocoele. Or, as often happens, they are mistaken for the retroflexed fundus uteri, and the patient suffering from an ovarian prolapse is vainly treated for a non-existent retroflexion or retroversion of the uterus. There can now be no excuse for such errors. The sudden occurrence of the tumor, its physical character, the peculiar dull sickening pain, and the extreme tenderness and nausea manifest on examination are sufficient to enable a correct diagnosis to be made by any competent gynecologist.

"*Treatment.*—Where the ovarian hernia takes place through either of the abdominal rings or downwards into Douglas's space, it may in some instances be reduced, as any other hernia similar situated. In the majority of cases, however, such hernia are irreducible when discovered, and must either be supported in the former case by applying a hollow truss whilst in the latter case the prolapsed ovary must be replaced if possible and kept in position with a peculiar form of pessary, exhibited, specially devised by Dr. More Madden for the purpose, or failing this, if the symptoms be urgent the ovary must in some cases be removed."

The foregoing views are illustrated by the details of several instances of ovarian hernia, exemplifying the clinical history and treatment of such cases.

OBITUARY. HERMAN E. DAVIDSON, M.D.

Dr. Herman E. Davidson who died of angina pectoris, at his summer residence in North East Harbor, Mt. Desert, Sunday, August 10, 1890, was born in Potham, N. H., August 10, 1815. At the age of twelve he entered the academy at Derry, N. H., and after two years went to the academy at Exeter, N. H., where he fitted for Harvard College, entering at the age of seventeen in the year 1832 and graduating in 1836. The following two years he studied medicine in the office of Dr. W. J. Walker at Charlestown, Mass., where his father's family were then living, and at the same time attended the lectures at the Harvard Medical School, taking his degree in 1840.

In January, 1841, he settled in Apalachicola, Florida, where he practiced medicine for about eight months, after which he returned to his father's residence in Charlestown. In September, 1842, he settled in Gloucester where he became a leading physician, and as the town grew to a city, he became identified with many of its institutions.

August 9, 1859, he married Mrs. Sarah M. Chamberlain in Boston, and they continued to live in Gloucester until 1878 (having travelled from 1872 to 1875 abroad), when he permanently left Gloucester on account of his wife's health to reside in the milder climates of this country. She died in Washington, D. C., May 16, 1880.

From 1880 to 1884 he resided in the United States, except one winter spent in Bermuda, when he again visited Europe, living at Paris, Caunes, London and the Isle of Jersey in England, and passing one winter in the Madeira Islands on account of the health of his two daughters. In 1889, he returned to Boston staying until the winter when he went to Bermuda and remained there until the summer of 1890. On his return to Boston he leased a furnished house at North East Harbor and was residing there with his two daughters at the time of his death.

During his residence in Gloucester he built up a large practice. With that calm and confident demeanor peculiar to himself, always equal to any emergency, unattended with the slightest vanity, he drew around him a large number of admirers who considered it a pleasure and honor to possess the acquaintance of such a man.

In the pursuit of his profession and those subjects in which he was interested, it was natural for him to be continually considering how he might improve the existing methods and devices.

Among the many improvements brought into use by him was the Davidson Bulb Syringe, now universally in use invented and first used by him in his practice some thirty-four years ago, it being the first bulb syringe ever made. Another was a meat press, simple and thorough. Still another invention was called "Davidson's Method in Ichthytaxidermy," or the mounting of fish for use in the study of natural history. So admirable was this peculiar method that many examples of it have been prepared by him or others who have been instructed by him, and placed in the natural history museums both in this country and abroad at the request of these institutions.

He was a person well informed in general literature and scientific subjects, and especially interested him, and whilst a resident of Gloucester he occupied many prominent positions of honor and trust.

In Gloucester he was a member of the school committee for several years, the first president of the Cape Ann Scientific and Literary Association, vice-president of the Cape Ann Horticultural Society, one of the incorporators of the Oak Grove Cemetery and a member of the Board of Trustees until his removal from the city.

Beloved by many and endeared to all with whom he was brought in contact both in his family circle and elsewhere from his many kindly acts, his death has caused a sorrow which time only can efface.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 9, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	815	382	37.72	7.80	2.16	20.16	.96
Chicago	1,100,000	547	352	41.40	8.10	2.70	29.16	5.76
Philadelphia	1,061,277	430	190	25.76	8.28	2.07	15.18	5.29
Brooklyn	852,467	—	—	—	—	—	—	—
St. Louis	550,000	—	—	—	—	—	—	—
Baltimore	500,343	208	89	21.12	10.08	2.40	10.56	5.28
Boston	418,110	278	138	31.32	14.04	1.08	27.72	1.08
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	250,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	220,000	102	49	34.30	6.86	1.96	23.52	5.88
Nashville	68,513	34	14	38.23	8.82	—	29.40	8.82
Charleston	60,145	29	8	41.40	17.25	—	31.05	7.30
Portland	42,000	16	9	60.00	12.50	—	43.75	—
Worcester	81,622	27	22	59.30	3.70	—	59.20	—
Lowell	73,370	56	40	65.86	5.34	—	58.74	5.34
Cambridge	67,026	33	13	24.24	12.12	—	21.21	—
Fall River	64,032	36	31	54.25	6.51	—	54.25	—
Lynn	55,200	28	20	25.00	11.71	—	25.00	—
Springfield	41,520	17	12	54.02	—	—	41.16	5.88
Lawrence	41,088	29	17	24.15	3.45	—	17.25	3.40
New Bedford	38,218	22	16	63.56	4.54	—	63.56	—
Holyoke	31,937	—	—	—	—	—	—	—
Somerville	33,516	—	—	—	—	—	—	—
Brockton	30,811	18	14	50.00	—	—	50.00	—
Salem	29,242	29	22	51.75	3.45	—	37.93	—
Chelsea	28,781	13	5	—	15.38	—	—	—
Haverhill	27,124	15	8	53.33	—	—	53.28	—
Taunton	25,544	13	7	38.45	15.38	—	30.76	—
Gloucester	24,904	10	5	70.00	—	—	60.00	—
Newton	22,011	9	8	55.55	—	—	55.55	—
Malden	20,615	18	9	16.66	11.11	—	16.66	—
Waltham	17,998	9	7	88.88	—	—	88.88	—
Fitchburg	17,304	4	2	25.00	25.00	—	25.00	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,702	5	—	80.00	—	—	60.00	—
Quincy	14,114	13	9	63.21	—	—	61.52	—
Newburyport	13,915	9	6	44.44	—	—	44.44	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 2,782; under five years of age 1,504: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 774, consumption 247, acute lung diseases 131, diarrhoeal diseases 62, typhoid fever 93, diphtheria and croup 53, whooping-cough 41, measles 14, cerebro-spinal meningitis 14, scarlet fever 12, malarial fever 9, erysipelas 5, puerperal fever 4.

From whooping-cough, New York 13, Philadelphia 10, Chicago 8, Salem 4, Lawrence 2, Baltimore, Portland, Cambridge and Taunton 1 each. From measles, New York 10, Chicago and Boston 1 each. From cerebro-spinal meningitis, Clinton 4, Washington 3, New York 2, Philadelphia, Baltimore, Boston, Lowell and Quincy 1 each. From scarlet fever, New York 4, Philadelphia 3, Chicago 2, Boston, Springfield and Pittsfield 1

each. From malarial fevers, New York 5, Baltimore 3, Charles-ton 1. From erysipelas, New York 3, Chicago 2. From puerperal fever, Chicago 3 and Baltimore 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending July 26th, the death-rate was 17.6: deaths reported 3,276: infants under one year 957, acute diseases of the respiratory organs (London) 185, diarrhoea 208, measles 142, whooping-cough 100, scarlet fever 55, diphtheria 39, fever 16.

The death-rate ranged from 24.6 in Newcastle-on-Tyne to 11.7 in Portsmouth, Birmingham 16.9, Bradford 17.8, Hull 14.4, Leeds 17.3, Leicester 16.6, Liverpool 21.0, London 16.7, Nottingham 16.2, Sheffield 19.3, Sunderland 19.9.

In Edinburgh 21.0, Glasgow 23.6, Dublin 20.

The meteorological record for the week ending Aug. 9, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.	Velocity of Wind.	State of Weather.*	Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.				
Saturday, Aug. 9, 1890.									
Sunday... 3	30.18	71.0	82.0	61.0	83	84	83.0	S.	S.W.
Monday... 4	30.12	73.0	80.0	69.0	84	75	80.0	S.W.	S.W.
Tuesday... 5	30.16	80.0	89.0	72.0	71	78	75.0	S.	S.
Wednesday... 6	30.03	80.0	84.0	76.0	75	59	67.0	W.	W.
Thursday... 7	30.11	71.0	78.0	64.0	57	68	62.0	S.E.	S.E.
Friday... 8	30.12	73.0	78.0	65.0	67	80	70.0	E.	E.
Saturday... 9	29.97	64.0	68.0	60.0	87	100	93.0	N.E.	N.E.
Mean for Week.									

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 9, 1890, TO AUGUST 15, 1890.

By direction of the Acting Secretary of War, Captain WILLIAM STEPHENSON, assistant surgeon, now on duty at Columbus Barracks, Ohio, is assigned to temporary duty at Jefferson Barracks, Missouri, during the absence on leave of Major Daniel G. Caldwell, surgeon, and will report accordingly. On the return to duty of Major Caldwell, Captain Stephenson will rejoin his present station. S. O. 176, Par 2, A. G. O., Washington, D. C., 1890.

By direction of the Acting Secretary of War, leave of absence for one month and fifteen days, to take effect about August 15, 1890, is granted Major DANIEL G. CALDWELL, surgeon. S. O. 176, Par. 1, A. G. O., Washington, D. C., July 30, 1890.

By direction of the Secretary of War, the ordinary leave of absence granted Major JAMES P. KIMBALL, surgeon, in S. O. 152, July 1, 1890, from this office, is changed to leave of absence on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 7, S. O. 182, A. G. O., August 6, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 16, 1890.

P. S. WALES, medical director. Detached from Medical Examining Board and resume present duty at Museum of Hygiene.

H. E. AMES, passed assistant surgeon. Ordered as member of Medical Examining Board in addition to present duty.

J. S. SAYRE, passed assistant surgeon. Detached from Navy Yard, New York, and to the U. S. S. "Ranger."

J. H. NORTH, Jr., assistant surgeon. Ordered to the Navy Yard, New York.

GEORGE H. BARBER, assistant surgeon. Detached from the U. S. Receiving-Ship "Vermont" and to the "Pensacola."

L. L. VON WEDDEKIND, assistant surgeon. Detached from the "Pensacola" and to the "Vermont."

E. W. AUZAL, passed assistant surgeon. To temporary duty at Naval Academy to examine candidates.

A. B. PITTS, passed assistant surgeon. Detached from U. S. S. "Pinta" proceed home and wait orders.

E. P. STONE, passed assistant surgeon. Detached from the U. S. S. "Independence" and to the "Pinta."

J. M. WHITFIELD, assistant surgeon. Detached from the "Monitor" and to the Naval Hospital, Norfolk.

JOSEPH AYERS, surgeon. Ordered to Naval Academy to examine candidates for admission.

GEORGE H. BRIGHT, surgeon. Ordered to Naval Academy to examine candidates for admission.

GEORGE T. SMITH, assistant surgeon. Detached from Naval Hospital, Norfolk, and to the U. S. S. "Independence."

S. S. WHITE, passed assistant surgeon. Detached from Marine and to the Naval Rezendevous, San Francisco, Cal.

DEATH.

Dr. Charles Steele Thomson, the oldest living graduate of the Yale Medical College, died August 14th, at Hartford, Conn. He was ninety years old. He was in active practice in New Haven for nearly fifty years, retiring about seven years ago.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM JULY 26, 1890, TO AUGUST 12, 1890.

SAWTELLE, H. W., surgeon. Granted leave of absence for fifteen days. August 8, 1890.

WHEELER, W. A., passed assistant surgeon. Granted leave of absence for thirty days. August 5, 1890.

CARMICHAEL, D. A., passed assistant surgeon. Granted leave of absence for thirty days. August 2, 1890.

PECKHAM, C. T., passed assistant surgeon. Granted leave of absence for thirty days. July 28, 1890.

AMES, E. P. M., passed assistant surgeon. Granted leave of absence for fourteen days. August, 1890. To proceed to Shreveport, La., as inspector. August 5, 1890.

KALLOCH, F. C., passed assistant surgeon. Granted leave of absence for seven days. July, 1890.

PERRY, J. C., assistant surgeon. To proceed to Wilmington, N. C., for temporary duty. July 31, 1890.

SMITH, A. C., assistant surgeon. Granted leave of absence for thirty days. August 11, 1890.

YOUNG, G. B., assistant surgeon. Leaves of absence extended twenty days on account of sickness. August 2, 1890. Upon expiration of leave, to proceed to New Orleans, La., for temporary duty. August 8, 1890.

STIMPSON, W. G., assistant surgeon. When relieved at Buffalo, N. Y., to proceed to Norfolk, Va., for temporary duty. August 5, 1890.

SOCIETY NOTICE.

AMERICAN CLIMATOLOGICAL ASSOCIATION.—The annual meeting of the Association will be held in Denver, September 2 to 4, 1890. One-third of the time is expected to be given exclusively to the study of Colorado subjects, and after the three days' sessions, the visiting physicians are to be given an opportunity personally to investigate the mountain resorts, by a series of complimentary excursions.

The programme includes a great variety of papers.

BOOKS AND PAMPHLETS RECEIVED.

The New Treatment of Peritonitis. By Emory Lanphear, M.D., Kansas City, Mo. Reprint. 1890.

Tenth Annual Report of the State Board of Health of New York. Transmitted to the legislature February 20, 1890.

A New Operation for Prolapsus of the Anterior Vaginal Wall. By Andrew F. Currier, M.D., New York. Reprint. 1890.

Thirty-first Annual Announcement and Catalogue of the Hahnemann Medical College and Hospital, Chicago, Illinois. 1890-91.

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Address.**SOME EXTRA-MEDICAL MANIFESTATIONS
OF HYSTERIA.¹**

BY CHARLES F. WITTINGTON, M.D.

MR. PRESIDENT AND FELLOWS:—The position upon your programme to which you have assigned the annual address, after the dinner, is, I take it, an intimation that you do not desire a dissertation upon any of the weightier matters of technical professional interest. On the other hand, I cannot hope to strike that vein of elegant persiflage which was so richly opened at our last meeting. If your dinner this year lacks such a sparkling dessert as you had a year ago, you must find fault with those who arranged the *menu*.

After listening to the address of last year, in which the progressive decadence and present uselessness of our profession were so clearly shown, we all returned to our homes prepared, I doubt not, to assist in the speedy dissolution of this Society, and ready to seek some occupation which, however untried and humble, should at least be an honest means of gaining a livelihood. And yet, somehow or other, we still find ourselves working on, not utterly ashamed, in the old calling, and our Society at the close of another year is actually larger than ever before.

Supposing, after all, that our therapeutic creed has of late years had to be shortened; supposing we are less sure than we used to be of our actual ability to control morbid processes; may not a sifted remnant be more valuable than the heterogeneous mass, the refined metal than the bulky ore? The "medicine-men" of savage tribes, we are told, are accustomed, on the occurrence of a solar eclipse, to raise a tremendous din with their shrieks and the beating of their tom-toms in order to drive away the malign influence which has brought sudden darkness and terror to the face of nature. Soon the sun's rays return, the world is bright again, and thousands of dupes hasten to pay homage and reward to the men who, as they believe, have averted the eclipse. But as the people's knowledge increases they find out that the beating of the tom-toms did not drive away the eclipse. Is there then nothing left for the wise medicine-men to do? Surely they can say: "That was all a mistake. We didn't drive away the eclipse. It would have gone away just as quickly if we had kept still. But we are not altogether fools in this matter. We can predict the next eclipse; can tell you just when it is coming, where it will be visible; and, what is more important, we can assure the timid and panic-stricken among you that the shadow will certainly pass away, and can tell you the exact minute when it will do so."

In just the same way astrology and alchemy have died. But their successors, astronomy and chemistry, starting with more modest claims, have gone on to achievements far more wonderful than the pseudo-science of their predecessors ever dreamed of.

It is a habit, I believe, with medical anniversary speakers to dilate with some self-gratulation upon the advantages which may accrue (perhaps upon those which have accrued) to the public, — the vulgar, as I think Dr. Jacob Bigelow used to call them, from the educating influence of the medical profession. I, for one, do not feel so sure about that. We have given

them good advice, — lots of it. We tell them what is dietetically correct, and after they have seen us eat a certain amount of Welsh rabbit and plum pudding their ideas become confused. We give them "Emergency Lectures," and after we have explained the theory and practice of applying the tourniquet, we are appalled at being asked, as I once was by a policeman, if the "blood goes down one leg and comes up the other."

We have tried to explain to them the mysteries of medical etiquette, but they can't seem to understand why their sick or dying dear ones must be left to hours of unrelieved suffering because the proper formalities of an orderly consultation cannot be sooner complied with. Then the consultation itself, they seem to think, these people who pay for it, ought to add something to the knowledge of the case, or to its treatment, and not be always merely a formal patting on the back of the attendant physician. The real verdict "Diagnosis wrong, treatment wrong, but not worth while to change it now," would appear to them like the prophet's "Peace, Peace, when there is no Peace."

You remember Thackeray's old woman who goes to Tunbridge or to Bath with a letter from her doctor to a brother practitioner, containing, as she supposes, a detailed account of her symptoms. Led by the wish to luxuriate in a description of her malady couched in sonorous Latin terms, she most unjustifiably opens the letter and what she reads in this: "Keep the old cat six weeks and then send her back." And yet she, like the people of our own day, failed to see the benefits of medical counsel.

No, if I were to speak of the educating influence of the medical profession upon the laity, I should turn to a different class of subjects. For instance, I should point out that we owe the public an especial education in the matter of paying their bills, especially their doctor's bills. Some of us have been remiss in this duty, and it is time that we took it up for the patient's own good. If we allow them to think that the doctor's bill is to be deferred, as one old lady expressed it, till "after they have paid their honest debts," we shall allow them to form habits which may be fatal to their peace of conscience, and incidentally also to the peace of mind of our sons and successors. Early bills and prompt settlements is a good lesson in self-reliance and self-respect, worth the learning by every profession and every class in the community, who have not the misfortune to be necessary objects of charity. Let us help the public to learn it.

Another lesson that the public needs to be taught in its relation to our profession is the primary but much neglected one of *how to summon the doctor*. This lesson may be divided into two parts — the time and the manner. Night-calls, the bane of our profession, ought to be minimized, and a proper application of the extra tariff recognized for such service will do something to effect this. Of course they are sometimes necessary. Child-birth and other abdominal disturbances will occur by night, and no philosophy which their subjects can summon will brook long delay in getting medical aid. But there is a class of patients (and their power for evil has been enhanced by the fatal facility which the telephone gives of reaching the doctor without exposing a messenger to the night air) who are like Macbeth. They "murder sleep, the innocent sleep." They discover that they

¹ Annual Address delivered before the Norfolk District Medical Society, May, 1890.

are getting stout, or are growing gray, or have lost their appetite, or they find that their child has a mole or is bow-legged, and the poor doctor is dragged from bed to attend to what might have been done a little later or a good deal earlier.

Or again, these people, if they find night-work is expensive, will send for the doctor at odd times, the middle of the forenoon or the late afternoon, thus obliging him to retrace ground, perhaps, already covered, and preventing that orderly and labor-saving arrangement of his work which could have been made if the call had been sent, as it might perfectly well have been, early in the morning.

Then these persons need training as to how to have the call. They say, "Come to Mr. Smith's," when they ought to know that means nothing whatever to the doctor, who has various members of that abundant family on his books, and must, therefore, wait for further directions before he can respond. On the other hand, some messengers are quite too particular. They will not intrust their call to writing, but insist upon seeing the doctor himself. He is, perhaps, in the bath, or he has removed his professional garb in order to engage in some of those humbler domestic services to which his good wife invites his leisure hours. A caller is announced. The office-hour is over, but duty (and incidentally the prospect of pecuniary aggrandizement, greater than that attaching to the non-professional work in hand), cannot be neglected. He leaves his work half done — makes his toilet, changes his clothes, and finally sees his visitor, who merely wanted him to call around and see the baby. Perhaps, however, having got possession of the doctor, he details the facts in the case, all of which have to be gone over again when, an hour or two later, the visit is made.

But the most crying abuse connected with the sending for the doctor is the uncalled-for imperativeness of the message. Some people, after making up their minds that they want a doctor, can't get him soon enough. Their message always reads "come at once," or "come as soon as you possibly can." Occasionally I have found that this feature of the call was the uninspired work of the messenger, who thought it was a business-like way to couch his message. But often enough it is the fault of patients, who ought to know better. Perhaps they fall into it from their experience with the plumber or the carpenter, whom it is necessary to tell that he must come forthwith if you expect to get him a week hence. In cases of accident the community goes fairly wild. Messengers are sent in every direction, each to call all the doctors he can find, those who are in to come at once, and those who are out to come as soon as they return. Meantime the patient's friends decide to send him to the hospital, and his house becomes the rendezvous of constantly-arriving doctors, whose coming it never occurs to anybody to forestall.

Well, there is an old fable about the boy who cried "wolf" too often, and every doctor has on his list certain people to whose uniformly urgent calls he has learned to give a large discount.

The Medical Fetich — how many families are there who are without it? With some it is the string of amber beads which are to ward off croup. The horse-chestnut, carried in the pocket for rheumatism; or the discarded but still awe-inspiring carbon-tip from an electric light, containing what unknown stores of electricity and therefore life; the electric belt; the lustrous

finger-ring, another rheumatic prophylactic; the camphor-bag, which the mother hangs around her child's neck to keep off scarlet fever. These and scores of other amulets and charms we meet with everywhere. And can we laugh at them, when within the year our own profession has run after just such another fetich — the "elixir of life"?

Let us remember — those of us who were not born into medical families — how we ourselves once viewed some of these questions before we became of the number of the initiated. Probably we once believed that there was a specific remedy for every disease, which only needed to be taken early enough to conquer the disease, whatever it was. Possibly we have even thought it necessary to take medicine to keep well, and have resorted to spring bitters to "thin down the blood," like our flannels, to a degree adapted for summer wear. We may have received, if not given, wormwood tea (and it is more blessed to give than to receive), when the *corpus delicti* was not a tape-worm, but an error of diet — in fact, not a parasite, but an oversight.

How shall we deal with these vagaries of the public? It is very doubtful if anything is to be gained by scotching them openly. People will either cling to their original fetiches, or at most, transfer their allegiance to others of like character. Moreover, they will very likely quote the well-worn adage of Hamlet that "there are more things in heaven and earth than are dreamt of in our philosophy." And this we cannot gainsay. On the other hand, if we keep silence and allow what is obviously harmless in domestic therapeutics to be continued, we shall find ourselves publicly quoted as sanctioning the most absurd of the old wives' fables.

Solomon the Wise displayed his judgment in the way he dealt with this subject. He has left us two maxims bearing upon it, one or the other of which I think we shall do well to follow. The first is, "Answer not a fool according to his folly"; and the second is, "Answer a fool according to his folly." Both these rules have their appropriate application, and between them, they seem to cover quite fully a somewhat delicate subject.

There is one subject, ladies and gentlemen, upon which, if you will allow me for the remainder of my time to turn into a somewhat more serious vein, I should like to say a few words. It concerns one element of popular weakness which is rather far-reaching in its effects, and for which our profession, I believe, has from its training an especial opportunity, and therefore an especial duty to correct. It is what I may call, for a short term, *Extra-Medical Hysteria*.

As physicians we are all familiar with a certain group of symptoms which we know by the name hysteria. We are told that it may simulate any known disease, but in the farrago of symptoms, motor, sensory and psychical, to which it gives rise, we recognize as a general underlying condition, a feebleness of the will-power and of those cerebral impulses whose office it is in the well-balanced economy to dominate simple reflex actions. We admit the powerlessness of drugs (except in the most general way) to combat this condition, and we know full well when called to the care of such a case that it means much more than writing prescriptions; that besides reinforcing a weak physical organization, we are to have the far harder task of strength-

ening the feeble powers of self-dependence and moral purpose, of confirming a self-distrustful and halting will.

To the student of social conditions at the present day, especially if he be a physician, it will, I think, appear evident that mental and moral states very similar to those just referred to have an existence and an application outside the realm of disease, and that they may, in various departments of human activity, have as deplorable an influence as they have when they expend themselves on an individual organism.

Mrs. Helen Hunt Jackson, in one of her charming volumes, has a chapter entitled "Hysteria in Literature," in which she refers to the ill-balanced emotionalism of much that goes under the name of literature. In its more rampant and effusive form it is to be found in the dime-novels and novellets, the "Flags" and "Blades" and "Gazettes" among newspapers, with which children of the more neglected classes openly, and those of the more favored classes secretly regale themselves. It shows itself, like an indecent exposure of the person, in the works of the "realistic" school of novelists. In a somewhat less glaring form it is seen in novels and poems where it takes the form not of over-wrought and sensational plot, but of morbid mental introspections and dissections, of wild vaporings, of yearnings for no one knows what. If I were to name an instance of this kind of hysterical novel (which is perhaps unwise, as it is always safer to speak in the abstract than in the concrete) I might mention Amélie Rives's "The Quick and the Dead."

A word of qualification is here in place. Sentiment is not a sign of hysteria; sentimentality is. The former is, as it should be, controlled by reason and common sense; the latter is devoid of any such control. So the most complete type of womanhood has sentiment, which may show itself in the strongest evidences of affection. But it is the ill-balanced, the hysterical, whose emotions run away with her. So all that has been said regarding literature has nothing to do with poetry, or any other expression of the best and truest sentiment, provided always it has a firm foundation in reasonableness and self-restraint. "Sense and sensibility is a strong combination." It is like the mountain, with its base on earth, and its apex in the skies. Sensibility alone is like the balloon which may, indeed, rival the mountain in elevation, but whose equilibrium is unsteady, its course erratic and brief.

One form of hysterical literature is to be found in a certain class of metropolitan journals, generally I fear those which, if one may believe their claims, enjoy "absolutely the largest circulation of any daily paper." What a fine frenzy such a journal works itself into over a murder, especially if that crime be conjoined with something worse. Its headlines, equally extravagant in words, in type and in ink, are for all the world like the *grands mouvements* of a hystero-epileptic. They are the scenic and spectacular element which catches the eye, and serves to usher in the other phases of the seizure. These latter are, in hysterical journalism, an exposure of the most private and personal facts in the history of the persons involved, and of their families. The minute circumstances of the killing; the revelations of the autopsy; a cursory sketch, if possible with photographic cuts, of the female friends of the victim, in an attempt to hit upon the "woman in the case." Failing a good murder, a pungent divorce-suit, or a church scandal furnishes a very good opportunity for a similar display, — sometimes a better

one because of the sexual color which it imparts to the scene. Through it all, judgment, taste, veracity and decency are all subordinated to the desire to produce a sensation.

The reporter knows that his prospects for advancement depend less on careful conscientious work than on the faculty of writing "vivid," that is, over-wrought pictures of harrowing and exciting scenes. Surely such journalism as will stoop to key-holes will sell for money the words uttered in the freedom of a fireside conversation, will invade the sanctities of domestic life, will send its minions to dog the honeymoon of the chief magistrate of the nation, — such journalism is given up to emotionality without control. Its "sensationalism" is essentially hysteria.

The hysterical drama is a conspicuous illustration of the principal of which we have been speaking. The "old-fashioned melodrama" with its abducted heir, its stolen diamonds, its forged will, its smooth rich villain, its betrayed girl, its rightful heir, preserved by a faithful servant through countless perils, its agonizing situations eked out by tremulous music from the violins, all this is unnatural, unreal, ill-balanced, hysterical. So, though less objectionable because less maudlin, is the furious fun of the extravaganza. But even in the dramatic classics one cannot feel safe, for the "emotional" actress can "tear a passion to tatters" even if the passion is that of Shakespeare, and good comedy can very easily be run into farce to please those groundlings who, if they cannot have their ears split or their eyes pumped, must have horse-play enough to tickle their obtuse diaphragms.

It is almost exactly two centuries since the social fabric of New England was almost disrupted by the consequences of a most terrible manifestation of hysteria, the witchcraft delusion. Doubtless there was also, in the phrenology of the present current medical fad, something of hypnotic suggestion in the testimony of the supposed victims, and in the confessions of the supposed witches: but the experiences of the bewitched, and indeed the whole mental state of the public, represented one great storm of epidemic hysteria, which the few calm and steadfast minds were powerless to withstand. Cotton Mather's "Wonders of the Invisible World" contains what are to us life-like pictures of this *status hystericus*. Let me quote one among many such examples from the testimony of a witness at the trial of Susannah Martin.

"William Brown testified, that Heaven having blessed him with a most Pious and Prudent Wife, this wife of his, one day met with *Susannah Martin*: but when she approach'd just unto her, *Martin* vanished out of sight and left her extremely affrighted. After which time the said *Martin* often appear'd unto her, giving her no little trouble: and when she did come she was visited with Birds that sorely pick'd and prick'd her; and sometimes a Bunch, like a Pullet's Egg would rise in her throat, ready to choke her till she cry'd out, *Witch, you shan't choke me!* While this good woman was in this extremity the church appointed a Day of Prayer in her behalf: whereupon her trouble ceased: she saw not *Martin* as formerly, and the church instead of their Fast gave Thanks for her deliverance." The recovery was not permanent however, and Mather concludes: "Soon after she fell into a strange kind of distemper, and became horribly frantic and incapable of any reasonable Action; the Physicians declaring that her Distemper was preter-

natural and that some Devil had certainly bewitched her : and in that condition she now remained."

Again unconscious evidence is given to the hysterical nature of the symptoms in a woman named Whetford, who having testified in the trial of Bridget Bishop and been threatened by Bishop was, as was said, pulled out of bed in the night by apparitions and carried to the sea to drown: "but she calling upon God, they left her, though not without expressions of their Fury. From that very time," says Mather, "this poor Whetford was utterly spoilt and grew a Tempted, Froward, Crazed sort of a Woman: a vexation to herself and all about her; and many ways unreasonable."

Religion is a domain in which Hysteria has made havoc. Some of the devotees of Islamism and Brahminism are notable instances in point. The whirling dervishes and the fakirs of the East need only to be mentioned. The latter are to be seen at this day in India with their arms fixed in rigid attitudes, their nails grown till they have transfixed the palms of their hands. Others we are told, tie hands and feet together and thus roll end over end for thousands of miles. Nor has Christianity been exempt from similar scenes. The lives of the medieval saints are full of instances. St. Anthony's conflicts, for example, with demons who in the guise of voluptuous women continually beset him, have been a favorite subject for the artist's brush. Indeed, the monastic life in all religions, with its contempt for physical needs, its prolonged vigils, its introspection and its atmosphere of mysticism, has been especially favorable to the development of hysteria; but we cannot congratulate ourselves that the religion of the present day is exempt from it. The scenes in some so-called revivalistic gatherings of the South and West, which have been well described for medical readers by Dr. D. W. Yandell and others, illustrate a marked form of convulsive hysteria, in which hundreds of the so-called "jerkers," influenced by pseudo-religious frenzy and the contagion of one another's example, went through all sorts of gyrations, dashing to the ground, writhing and bounding from place to place. Can we truly say that some exhibitions a good deal nearer home, given by the Salvation Army and under other auspices, have been altogether free of the same mental states, even if the physical contortions have been somewhat less marked? The hysterical mind, if it be turned toward religion, finds the "patient continuance in well-doing" a tame affair compared with the exhilaration obtained, according to the ecclesiastical affiliation of the individual, either by revivalistic excitements, mystical musings or ritualistic rhapsodies. And this is said without any wish to condemn the temperate employment of any of these aids to religious life.

Practical reforms and charities are hampered by the hysterical or emotional spirit in their supporters. It is admitted by all thoughtful persons that the charity which is most permanently beneficial, is not that which bestows outright upon its recipients but which puts it within the power of the poor and unfortunate to secure what they need for themselves by their own effort. While outright gifts of money and supplies doubtless require at times to be given and should not then be withheld, they should be looked upon as opiates in neuralgia, as palliatives merely, useful in their place and for a short time, but liable to be called for again and again, and able to cause great mischief if used too much. The hysterical mind, with a weak good-nature,

is unwisely altruistic. It gives to the street-beggar without taking the trouble to investigate his deserts. It is constantly getting up new societies, if not for the sending of top-boots to the cannibals, for almost equally quixotic and emotional objects. It delights in agencies and organizations which publish affecting reports, but it is not apt to be the almoner of its own charity, and it forgets that the personal contact of giving with receiver is the best channel for the transmission of good deeds. The filaments which should transmit helpfulness from man to man cannot be twisted together in the person of any society "agent."

Entrenched abuses are not permanently swept away by hysterical reformers. An enthusiast may do a great work, but his enthusiasm must be well ballasted by common sense if it is to override all obstacles and lead to permanent results. The women of Ohio can never overcome the curse of intemperance by raiding saloons and smashing whiskey-barrels. The work of the emancipation of the slave was far surer and safer in the hands of Abraham Lincoln than it ever could have been in those of John Brown, of Osawatomie.

Did time permit, we might, I think, find in art, in politics, and in other departments of human progress, further evidence, which indeed will suggest itself to your own minds, of the unfortunate influence produced by the hysterical or emotional element in human nature, if unchastened by self-restraint and common sense.

If, then, these suggestions be true, it is incumbent upon us, as members of a conservative profession, which has to contend with just these disordered habits in the individual, in behalf of his mental and physical health, to carry this same attitude into our relations with social life. In the body politic, as well as in the body corporeal, we shall strive for purpose as against caprice, for control as against license, for order as against anarchy.

Original Articles.

THE CARE OF THE INSANE IN LOCAL INSTITUTIONS.¹

BY ALBERT H. MOULTON, M.D., OF BOSTON.

The term insanity has included a great variety of abnormalities in different ages, and with the increasing light of scientific research will probably be made to embrace many forms of disease not so classified at present. As the terms morality, virtue, crime and luxury convey a dissimilar meaning to the people of different localities and countries, and to the same people at different periods, so the term insanity in its common acceptation depends upon the age and the people.

Without attempting to define the term, the condition referred to in this paper as Insanity is that in which the individual at the time is not considered responsible for his acts, and in which his liberty may be interfered with; or which to the popular mind comprises insanity.

Tradition, superstition, fanaticism and custom cling with almost unrelenting tenacity, influence our lives, and their effects disappear, if ever, after many fluctuations, by being overwhelmed with truth and reason.

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When certain improper conditions in any branch will be replaced by rational methods depends upon the time when the subject is approached in a broad and scientific manner, born of intelligent experience.

The early settlers of this country copied many of the usages of the old country, not neglecting religious intolerance even, and the mistakes which were made on the British Isles and elsewhere across the water were repeated here, almost as a matter of necessity. The methods of dealing with the insane which our forefathers borrowed, and which they applied according to their light, as has every succeeding person, were crude, not to say cruel; for the reforms of Pinel and Connolly, who viewed the conditions with the eyes of professional experience as well as philanthropy, had not permeated the masses, and never during the time of those reformers was there asylum room for all the insane of their communities, most of whom were dealt with by laymen; therefore it was not the example of such physicians that our ancestors followed, but that which for long centuries had been set by incompetent and mistaken men, which, if ever studied a moment, was supposed to be rational and proper, and which is still influencing a large number of citizens in the treatment of many insane men and women. When this subject is studied, it is apparent that two methods of dealing with the insane have long been in vogue: by one they are treated as sick people, by the other as criminals or paupers; in one instance they are placed under the fostering care of the State, in the other their management is often sought by those inheriting the penurious and selfish methods of local politicians, or they fall into the care of well-meaning but incompetent persons. The results have been the same in all time, as I shall endeavor to show.

Tuke, in his "Insanity in Ancient and Modern Life," shows how it is probable that causes were in operation to occasion mental disease in pre-historic times; and if existing and recognized it must have had some sort of attention bestowed upon it, as was the case later. To that writer, also to Esquirol, Sibbald, Folsom and a few others, are we much indebted for valuable contributions upon the history of the early treatment of the insane; and to the gentlemen mentioned, as well as to Shew and Letchworth, do I make acknowledgment. Forms of insanity are portrayed in the Old Testament, and not infrequently spoken of in the New. David feigned insanity and betook himself to a cave. Jesus caused the unclean spirit to depart from a man who had been possessed, and who had spent days and nights in the mountains and tombs, crying and cutting himself with stones. He had often been bound with fetters and chains, which he always broke. It can reasonably be inferred that insanity was not considered really a *disease*, for Christ gave his disciples power against unclean spirits, and to heal all manner of disease. Probably the Greeks and Romans treated some of the insane in rooms adjoining their temples. Homer makes a single reference to the subject of insanity; and the dramatic writers of that time admirably described the disease. Euripides portrayed the insanity of Orestes, caused by having murdered his mother. He suffered from melancholia, followed by mania during which he had hallucinations of sight and hearing. When he fell exhausted, the herdsmen tried to stone him, and he was protected by a friend. The Athenians who lived as early as the fifth century before

Christ treated the insane with intelligence. A father suffering from insomnia and with increasing delusions of grandeur was the source of much anxiety to his son, who, after using moral suasion, which failed, had the patient bathed and purged. Fearing that he would escape, he was kept locked in his room under the care of a servant.

Among the stories told by Atheneus is one of a young man who had delusions of wealth; he was not a general paretic though, for under the care of a physician he recovered. Hippocrates regarded mental derangement somewhat in the nature of bodily disease, and Sibbald shows that the most cultivated intellects of Athens concurred with him.

The priests, among the ancient Egyptians, treated the insane by what we now term "moral" means; useful occupation and pleasant diversion, while the ceremonies attending the treatment of the insane at Gheel during its early days were as impressive upon the patients as those indulged in by Christian Scientists, Mind Curers and other quacks of the present day.

We are informed by Dr. Cowles, in his chapter upon Hospitals in "The Reference Hand Book of Medical Science," that "the first hospital for the insane on record was founded A. D. 491, at Jerusalem, and such asylums were established by the Saracens at a later period." During the dark and troublesome Middle Ages the insane suffered much; the intelligent and humane treatment which had been taught and practised "by the learned priests of Egypt, and later by the great philosophers and physicians of Greece," was lost sight of, and the insane came to be regarded as criminals and outcasts, and were treated accordingly, or if accused of being bewitched were burned at the stake. How many actually insane suffered such tortures will never be known. Says one historian, "it has been estimated that in Europe during the fifteenth and seventeenth centuries more than one hundred thousand persons were convicted of witchcraft and were burned, drowned or hanged. "In England," says Sibbald, "during the first eighty years of the seventeenth century, the number executed has been estimated at five hundred annually, making a frightful total of forty thousand. According to the proportions which are furnished by the statistics of insanity at the present day, a population such as that of England in the seventeenth century would have furnished about two thousand persons annually who would, according to our present views, have been placed in asylums"; and he makes the deduction that a proportion of nearly one out of every four persons who would now be sent to an asylum were burned as witches. During the epidemics which culminated in Essex County in 1692 (which never made any headway in the Plymouth Colony), but twenty-five persons were executed. None were burned in America because of this delusion.

Whipping-posts were common in England in the reign of Henry VIII, and Tuke refers to the fact that wandering lunatics were whipped. He has "no doubt" that "in addition to branks [gags] and whipping-posts, the pillory and stocks, and probably the ducking stool, were made use of for unruly and crazy people who nowadays would be comfortably located in an asylum."

Asylums were established in England, Spain and elsewhere, which were under the charge of monks, or were in reality prisons, subject to no supervision,

where the treatment was naturally barbarous and inhuman. It was generally imagined that the insane were possessed by demons, and dungeons were provided; unnecessary restraint was used, and the unfortunate inmates were subjected to all manner of abuse; they were looked upon as little superior to beasts, and were often treated worse than criminals at the beginning of the nineteenth century. Pinel, the alienist, after being long resisted by the Commune, finally got permission in 1792 to try his experiment, and he loosened the chains and bonds from numerous ill-fated inmates. William Tuke, in 1796, at the York Retreat, then just opened, renounced the use of chains and manacles in the treatment of the insane.

Connolly, in 1839, followed his example, introduced the system which spread over England and Scotland, at a time when Woodward was performing equally as good work in Massachusetts. Letchworth, in his recent work, "The Insane in Foreign Countries," after specifying certain barbarous methods of restraint in use at Bethlehem, remarks, "That cruelty of the kind described should have been possible as recent as the year 1815, twenty-five years after Pinel's great reform in France, and after Tuke's introduction of humane principles at the York Retreat, is almost beyond belief." Such a state is fully accounted for by the fact that, at the time spoken of, Bethlehem was nothing more than a prison-hospital, having no resident physician, where governmental supervision had been successfully resisted by the local management, and which was not effected until 1853, when the old régime was swept away and a new order of things introduced, which has made it one of the best hospitals in the world, directed by resident physicians and periodically inspected by public officials, (other than its board of managers,) as should be every place where the insane are kept. It will be shown that improvement and reform have been as slow of adoption in this country at a more recent date, as was the case in England at the time spoken of, and that the insane receive a full measure of justice only when treated by those who make their disease a study.

As the Biblical idea regarding insanity obtained for many centuries, so other false notions continued beside those of custody. Dr. Rush, in 1783, deemed it advisable "when visiting an insane person to first look him out of countenance," a procedure which some, unacquainted with insanity, still imagine necessary to attempt.

It was generally supposed there was an exacerbation of excitement at the full of the moon, an idea of great antiquity, and one which has such a hold that it effects even the titles of hospitals and makes standard a legal appellation.

That insanity can be diagnosticated by some appearance of the eyes of the patient (what I know not) is still a common belief.

Thus I have referred to a few of the circumstances, customs and traditions which greatly influenced our ancestors in dealing with this subject, and they should be kept in mind when attempting to give a reason for the methods and theories long ago adopted, very many of which are still entertained by individuals who have not had an opportunity of correcting them, or upon whom superstition, credulity and love for the marvellous have a strong hold.

It is the theory of the layman which the layman adopts, especially so in a land with few papers and poor

communication; hence in the early history of this country the insane were naturally treated as criminals and outcasts. Only the demonstrative forms of the affection were recognized (not generally as disease), and those suffering from it were consigned to almshouses and locked up in jails, where they were long forgotten, while the quiet and demented wandered about the country. Understanding these natural circumstances and their causes, one is not surprised at the conditions, for the people knew no better method, but can feel nothing save admiration for those who recognized the mistakes that had been made, and through whose efforts reformation was begun.

In Massachusetts, to Horace Mann more credit is due than to any other person for arousing public sentiment which demanded humane treatment of the insane. Largely through his efforts the first State hospital was established (opened in 1833) of which he became a trustee. It was intended to have the Commonwealth assume the whole care of the indigent insane, and to the hospital were sent insane from almshouses and prisons in such numbers that within a year the institution was overflowing, and to make room for more curable cases, patients who had enjoyed the benefits of the hospital unrestricted were returned to their old filthy quarters where manacles and chains were resumed, a most emphatic illustration of the two methods under comparison.

In 1843, ten years after the opening of the Massachusetts State Hospital, Miss Dix memorialized the legislature in a document of thirty-two printed pages, that the institution be enlarged. The fact that the barbarities to which the insane had long been subjected had been condemned by governors, commissioners and others, and that a hospital had for a decade been under the care of the most distinguished specialist in America, was not sufficient to prevent methods discreditable to any community. Miss Dix found patients in "cages, closets, cellars, stables and pens;" many were chained, naked, beaten with rods and lashed into obedience. She named forty towns, often with much detail, where such cruelties existed.

To one who has recently gone over the ground covered by that noble woman forty-seven years ago, her record is most suggestive, not an inconsiderable part of which can be duplicated. She spoke often of cages and shackles, but had more to say about the improper mingling of the sexes, untidiness, etc. There has been great improvement in our hospitals since the time spoken of, every one of which could properly adopt the motto, "Not how cheaply, but how well can I do my work," and the insane in almshouses are better cared for, yet the difference between the two forms of care is, I believe, as great now as it was fifty years ago. The state of the latter institutions is no new condition, and it will continue in some degree as long as the present methods obtain.

The memorial spoken of caused an investigation to be made by a legislative committee, which recorded its testimony against practices of which every unprejudiced individual is a foe.

At about the same time a committee, of which Dr. S. G. Howe was chairman, studied the condition and methods of the care of the insane, and in its report specified with minuteness cases of neglect, showed how the insane degenerate when placed in almshouses, and, after reviewing the whole field, recommended that the State take charge of them.

Again, in 1863, when one would suppose sufficient time had elapsed to remedy all these evils, another commission carefully studied the subject of insanity and the disposition of the insane. So comprehensive is that report that I should like to embody it in this paper; I will, however, make only a limited quotation: "Your commissioners entered on their duties with the impression that the noble institution established by the State had removed all the principal causes of complaint. They knew that in former times men had been shut up in cages and treated almost like wild beasts, but they were unprepared to find instances of such unnecessary cruelty in the State of Massachusetts at the present time. . . . The overseers of the poor can confine any pauper as a lunatic without the intervention of a judge and without the certificate of a physician, and when confined it is the duty of no one who is not interested in reducing the expenses of the town to visit the lunatic and see that he is properly cared for. The manner in which maniacs are confined in some of our towns requires immediate legislative interference."

Under the direction of the State Board of Lunacy and Charity, the writer has recently visited, or caused to be visited all of the almshouses in this state where there are insane. In many the sexes are not properly separated, they are often untidy, and the patients are subjected to a great amount of unnecessary restraint. Some female patients are under the care of men, and in only a few instances do the insane receive care which approaches that bestowed upon a similar class at the State hospitals, the question usually being one of custody alone.

But in justice to Massachusetts I turn to other states, for evidence is universal that under the supervision of the Commonwealth the insane receive better care and in the end are more economically provided for (because more recoveries result) than is the case when placed under non-professional supervision.

After procuring the enlargement of the Worcester Hospital, Miss Dix got the Providence Hospital reconstructed, and then began the work of founding outright state asylums, starting with New Jersey and Pennsylvania, and year by year carrying bills through the legislatures of twenty states. Did time permit it would be interesting, because the lesson is a vital one, to follow her steps and study the testimony of those who went after her; but only a few instances will be taken up in some of the representative states. They all point to the same conclusions.

New Hampshire has ten county asylums and almshouses, at which most of the town and county pauper insane are cared for. They are simply places of detention, and the treatment of the insane has been of a low order. They have recently come under the care of the new Lunacy Commission, which has removed a considerable number of patients to the State Asylum.

The Board of Public Charities of Pennsylvania said to its Legislature in 1873, regarding the insane in prisons and almshouses: "The shocking and sickening revelations so graphically set forth by Miss Dix in 1845 were not yet obsolete," and suggestively remarked "some improvement had been made in some of the places." Again, in 1885, the Committee on Lunacy of the Pennsylvania Board of Public Charities reported various cases of abuse and other improper treatment of insane found in various localities, and

they characterized the county poor-houses as "seldom what they should be," "where proper requirements seemed onerous and exacting to the authorities, who are often the faithful representatives of a parsimonious public."

I am informed by an official of the State of Connecticut that throughout that Commonwealth there are many wretched almshouses where demented, harmless people are kept, some of whom "are greatly neglected and without medical care for their special ailment, and under no sort of systematic observation by a physician."

Michigan struggled long with this question, and "a year ago county care became a thing of the past. It continued during its entire existence to be a reproach to the county."

The new Lunacy Commissioners of New York have investigated the local asylums in that State. In their report, after reviewing the history of their asylums from the time that Governor Throop, in 1830, called attention to "the privation and neglect to which the insane were subjected in the county poor-houses," the interesting story is related of how the insane are likely to be circumstanced in such institutions. Without going into particulars as to the non-separation of the sexes, lack of proper medical care, the abuse, exposure and filth, it is enough to say that the recommendations have been adopted, and the insane now in county asylums are to be provided for in State hospitals.

A report comes through the daily papers from an almshouse in Maine, where an insane man escaped from his cage and carried out an often-repeated threat by setting fire to the detached building in which he and a bed-ridden woman lived, watching with pleasure the flames as they consumed his companion.

Fortunately we seldom see such an example of what non-medical management of the insane as a business may be, and to what it is likely to lead, as that exhibited at Longe Pointe, near Quebec. An asylum barely large enough for one thousand, is said to have been packed with seventeen hundred and thirty inmates, the basement and attic in constant use for patients, the latter place in July and August as hot as the infernal region. I am informed that the government of Quebec paid to the owners (of course not physicians) one hundred dollars a year for the care of each pauper patient. Since the contract with the government in 1873, they have made, so the papers report, nearly three quarters of a million at one hundred dollars per patient!! Can we wonder that there was want of fire protection, that there was wholesale restraint (to save bedding and clothing), confinement of patients in bare kennels in which were neither light nor air? Dr. D. Hack Tuke, the well-known alienist and author of London, inspected that place in 1884, and made a report of severe but just criticism. He characterized some portions of the buildings as chambers of horror, and said he should regard the Angel of Death as the most merciful visitant those wretched beings could possibly welcome. It is to be hoped, that if the asylum is rebuilt, the contract system will be abandoned, the direction of affairs entrusted to a competent medical superintendent, and the whole placed under the supervision of a board of charity.

With our hospitals and asylums all overflowing, hundreds of insane in almshouses, many of whom are poorly cared for, and cases accumulating at the rate of

about two hundred a year, the question for solution is one which interests general practitioners and specialists alike. Many of our almshouses, besides being put to their legitimate use (which is an honorable one) have, to use the language of another, "become receptacles to which may be assigned everything in the line of vice, crime and misfortune that has no other resting place": they are patronized by people too lazy to work; the designing attempt, and often succeed, to make them refuges; some are workhouses, in name, most of the smaller ones lodge tramps, while at some truant schools are maintained.

With such a mixed population it is not to be expected (it is surely not the case) that the mentally sick can receive proper attention, where the amount of help is the lowest that can be endured, where the persons employed are usually inexperienced, seldom knowing anything about the care of the sick and not infrequently being unsettled and incompetent.

We do not hear it claimed that almshouse wardens can treat pneumonia, asthma or albuminuria, and I am unwilling to relinquish the belief that insanity of long standing is no less a disease, from which a goodly number will recover if unremittingly treated, and that its treatment should not be left to the ignorance of persons who may be well-fitted for other vocations.

Most of the insane who are a public charge are so not because they are primarily paupers, but they become impoverished in consequence of the disease, and in losing the power to support themselves, their families often become more or less dependent; hence it is not too much to maintain that this unfortunate class has a claim upon the Commonwealth out of all proportion to that of the ordinary pauper, who is often such by choice or vice.

With this fragmentary retrospect, in which not a tithe of the evidence at hand has been used, I trust I am warranted in presenting the following propositions:

(1) There has been great improvement in the care of the insane in this country, both in almshouses and hospitals since the establishment of the latter.

(2) The same degree of difference between almshouse and hospital care has continued.

(3) The best method to follow is that in which the State assumes the whole care and expense of the entire number of indigent insane.

A CASE OF VAGINAL HYSTERECTOMY.

BY F. H. DAVENPORT, M.D.
Instructor in Gynecology, Harvard Medical School.

Mrs. L. was first seen by me, in consultation with Dr. Hodgdon of Dedham, on October 22, 1888. She was forty-three years of age, had been married twenty-one years, and was the mother of ten children. She had also had three miscarriages, the last four years before, from which event she dated her present trouble.

Her symptoms had been a constant vaginal discharge, profuse enough the last four years to require the use of a napkin, since April becoming offensive and bloody. Her menstruation began at seventeen, and was always irregular, occurring since her marriage every three weeks, lasting a week, and using from twenty to twenty-five napkins. For the last four years,

flowing has been irregular, since July constant, so that she cannot tell when the regular menstruation should occur. During this time she has used from two to three napkins a day. She complains of constant pain in the sacrum, worse when on her feet, also bearing-down pain. She has had symptoms of cystitis for two years. She says that three years ago an "abscess in the uterus" was incised, and that two years ago a polypus was removed by a physician in New Bedford. Her general health has suffered greatly from the constant drain, and she has been obliged to give up her work, which is that of a nurse.

She was advised to enter the Free Hospital for Women, which she did a week later. Examination showed a large, soft uterus, cavity three and a half inches, bleeding freely on introduction of probe, cervix bi-laterally lacerated. Under ether the canal was stretched and the interior of the uterus curetted. One or two teaspoonsfuls of soft, shreddy tissue was removed, which was sent to Dr. W. F. Whitney for examination. His report was that there was no evidence of malignancy in the specimen sent. The patient was therefore advised to return home and await results.

She re-entered April 27, 1889, with a history of increased pain and flowing. She used from three to twenty napkins every day, and was so weak that she had to keep her bed most of the time. The foul-smelling discharge had returned.

May 4th, I performed hysterectomy, assisted by Dr. H. C. Baldwin. The anterior cul-de-sac was first opened with scissors, the bladder was then dissected off from the uterus with the fingers, and the peritoneal cavity opened from one broad ligament to the other. The same was done in the posterior cul-de-sac. The left broad ligament was then grasped with the thumb and fore-finger, and a pair of strong clamp forceps applied, including about half the breadth of the ligament. The tissues between the clamp and the uterus were then divided with scissors. A second clamp was then so placed as to include the upper part of the ligament, and the tissues here were also divided with the scissors. The same was done on the other side, and the uterus was easily drawn down and out. The right ovary and tube appearing with the uterus, they were clamped and removed; the left not appearing, was allowed to remain. There was comparatively little hemorrhage. The handles of the forceps were securely tied to prevent slipping, and a moderate amount of iodoform gauze was packed into the vagina and around the handles.

The patient made a good recovery from the operation, the temperature reaching 102° once only, on the second day. The clamps were removed at the end of forty-eight hours. On the thirteenth day after operation there was severe pain, and two dark gray, foul-smelling masses were passed from the vagina. These were presumably the sloughs from the tissue compressed by the forceps.

She left the hospital in good condition June 28th, the vaginal wound being entirely healed. Dr. Whitney gave the following report of the condition of the uterus:

"The whole cavity measures eight centimetres (the body five, and the cervix three). The walls, at the fundus, are three centimetres thick. There seems to be a general increase of fibrous tissue in the walls, especially in the cervical region. The external os presents numerous slight superficial erosions."

¹ Read before the Obstetrical Society of Boston, May 10, 1890.

"The mucous membrane is about twice as thick as normal, slightly folded, and of a reddish-gray color."

"Microscopic examination shows a great increase of the tubular glands in relation to the basic substance. There seems no evidence, however, of any tendency on their part to grow into the muscular substance."

"I should regard the case, therefore, as one of extreme hyperplastic endometritis."

"The ovary seemed normal, and at one end was a reddish-gray, slightly opaque mass, with a deep-red centre and crinkled edges, measuring two centimetres in diameter—a false corpus luteum."

The patient was seen May 9, 1890, a year after the operation, and as regards the pelvic organs the condition was very satisfactory. There was no evidence of any trouble at the seat of the operation. She had had a very severe attack of the "grippe," which had laid her up for weeks, and she had various symptoms which suggested trouble with the kidneys. Dr. Wood examined the urine, and reported a condition of hyperemia of those organs.

The justification for the operation lies in the long duration of the disease—four years—in spite of two, and possibly three operations for her relief; the increasing severity of the hemorrhage and discharge compelling her to give up her work on which she was dependent; the possibility of malignant disease, owing to the difficulty of making a diagnosis from the fragments removed; and also the fact that there was a clear history of cancer in two or three members of her immediate family.

A CASE OF CALCAREOUS FIBRO-MYOMA OF THE UTERUS.¹

BY WILLIAM INGALLS, M.D.

PATIENT sixty-three years of age: married; was never pregnant; menopause at or about forty.

March 16, 1890. First visit. Previous history that of one whose household duties and cares had over-powered will and physical strength. The prevailing symptom of her present condition was a comparatively moderate but uncomfortable distention by gas in the intestines, which increased, not very rapidly, but yet towards the end became very distressful. Treatment was unavailing. There were hours of quiet sleep within each twenty-four; but, for the most part, discomfort and pain overcame her phenomenal patience and pluck.

On examining the abdomen twelve hours after death, it was found to be greatly distended. A large quantity of gas escaped when the peritoneum was punctured. Exposure of the intestines presented great distention; color dark; appearance of recent limited peritonitis over descending colon. Several points at various portions of the intestines gave evidence of impending perforations, and at slightest touch, openings took place; and through these issued an immense quantity of nearly black, grumous and foul-smelling fecal matter. Following the intestines down to the rectum, a large substance, hard and rough, was felt, which proved to be lying behind the bladder, between that and the uterus, which was small, hard and nodulated. The hard substance had pinched in bit of small intestine, a portion of which, above and below, was cut off and removed with the mass. Throughout the case, urination was performed normally.

¹ Read before the Obstetrical Society of Boston, May 10, 1890.

Dr. C. E. Stedman saw the case with me. Dr. W. W. Gannett kindly examined the specimen, and the following is his report:

"A hard, firm mass, having two lobes—the larger the size of a big hen's egg, the smaller the size of a walnut. The two lobes are intimately adherent to each other. The outer surface is rough and irregular, is covered with fibrous tissue; and at one point a bit of small intestine is attached by a mass of fibrous tissue.

"The mass, when sawn through, is found to have an outer shell of calcareous matter, and an inner portion made up in part of cheesy material, but in great part of a very tough fibrous material. Microscopically, this is found to be fibrous tissue, with a fatty detritus.

"The mass is a sub-peritoneal fibro-myoma, which has become detached from the uterus, and has undergone a partial fatty degeneration, and calcification of the outer part, forming a shell."

A CASE OF VAGINAL HYSTERECTOMY FOR CANCER: RECOVERY.¹

BY JOHN HOMANS, M.D.

Mrs. T., fifty years old, entered the Massachusetts General Hospital with the following history:

Had borne three children: the youngest is now twenty-six years old. The menopause had taken place at the age of forty-five. For the last three years she had had a reddish-yellow discharge from the vagina, small in amount, at times rather offensive. During the last few months has lost considerably in weight. A sister died of cancer.

On examination, the uterus was found somewhat enlarged, the cervix thickened and eroded. A piece was cut off and sent to Dr. Whitney, who reported that it was cancer. The broad ligaments did not seem to be involved.

An operation was performed May 2, 1890. The mucous membrane was cut through with a knife, entirely around the os uteri. The bladder was pushed off from the uterus with the finger, traction being made on the uterus by an assistant with very strong vulsellæ. The vagina was continually irrigated with a very weak solution of corrosive sublimate. The uterine wall was found to be nearly perforated by the disease at the junction of the neck and body. Posteriorly the uterus was separated from the rectum by the finger, and the peritoneum opened behind. The fingers were then pushed over the fundus from behind, and the anterior cul-de-sac opened. Two long pairs of interlocking forceps were clamped on each broad ligament, and the uterus was cut away on each side with scissors. At this stage of the operation the uterus tore in halves, and the upper and larger part, containing the body and fundus, receded into the abdominal cavity and the intestines appeared in the vagina. By bimanual pressure the uterus was made to reappear in the vagina, and one of the round ligaments was caught in a pair of compressing forceps, and by this hold the uterus was extracted. The forceps were left hanging from the vagina, one pair on each broad ligament, and one pair on each Fallopian tube. The pulse was 70 at the beginning of the operation, and the same at its close. The operation lasted about half an hour.

¹ Read before the Obstetrical Society of Boston, May 10, 1890.

The temperature reached 101° on the fourth day, and has since declined. The forceps were removed on the sixth day. Recovery rapid. No pain.

Reports of Societies.

THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MEETING, May 10, 1890.

DR. DAVENPORT reported

A CASE OF VAGINAL HYSTERECTOMY.¹

DR. A. H. HODGDON of Dedham, a guest, said that a radical operation seemed more to be demanded in this case from the fact that the father had had cancer of the face and a sister was suffering with undoubted cancer of the uterus. The operation was certainly a successful one and the patient would be in good health to-day were it not for the renal disease.

DR. HOMANS wished to make a practical point, that as regards the clamps it was best to let well enough alone and not remove them too soon. In the case he was about to report he left the clamps on till the sixth day. In another case a clamp was removed on the fourth day and had to be put on again after the loss of about a pint of blood.

DR. Homans then reported

A CASE OF VAGINAL HYSTERECTOMY FOR CANCER. RECOVERY.²

The specimen was shown.

DR. Homans said that he thought this operation for cancer of the uterus was a very proper one if the broad ligaments were not affected, and the removal of a foul sloughing mass cannot but be beneficial. Inference as to the duration of life in these cases can be drawn with little certainty, and he recalled a case which he thought would die in a short time that lived a year. Another case where the diagnosis of cancer had been made by the microscope, which he had scraped and burnt three years ago, is still living.

Another similar case died in six months, so it is therefore somewhat problematical whether we really add to the duration of life or not by an operation.

If the diagnosis of cancer is made he considered vaginal hysterectomy the best operation and the modern method is so much surer and quicker than the old method.

Owing to the remote position of the disease we rarely see these cases until the disease has progressed too far. A case where the disease had extended, in which he refused to operate, went to New York, where the uterus was removed and also some of the bladder, leaving a large fistula.

A case he had cured at the Carney Hospital ten or fifteen years ago for hyperplastic endometritis, developed two years later an enormous soft abdominal tumor, which he took to be a sarcoma and could not remove.

DR. BAKER spoke of the relative advantages of hysterectomy and of his method of high amputation of the cervix, and he showed that, although hysterectomy was the proper operation in some cases yet the majority

of the cases of cancer of the uterus were best treated by the high operation.

He then illustrated by two cases (showing the specimens), the first belonging to a class where hysterectomy only is advisable and proper, the second, one that was best treated by high amputation.

CASE I was referred to me by Dr. Sinclair of this city. Diagnosis from specimen removed by Dr. Sinclair and submitted to Dr. Whitney for examination, "malignant adenoma."

I first saw her February 14, 1890.

History as follows:

E. J., age fifty-six; married twenty-two years; no children. One abortion at three months soon after marriage. Menstruation always regular. Menopause two or three years ago. Twelve or fourteen years ago had pain in left groin for a month or so. Pain and soreness across lower abdomen for last two years, pain of a dull character and worse at evening and in the night; very severe at times. When pain began two years ago there was a considerable flowing with clots; since then a slight show every day. Last November a copious hemorrhage (a vessel full) lasting three days. Lately the pain is worse, increased by constipation. General health good.

February 17th with the assistance of Dr. Sinclair I operated. I did the usual operation, using two stout ligatures on the left broad ligament, then clamping with a Cleveland bent clamp and dividing tissues inside it with the cautery — the same process was repeated on the right side. I stitched the vaginal mucous membrane at the edges of the incision, both in front and behind the uterus, to the peritoneum and in this way lessened the hemorrhage.

It was found to be difficult to deliver the fundus because of its large size and the presence of numerous fibroid nodules. Fundus antevected and delivered. Brisk hemorrhage from the right broad ligament, during the operation, due to slipping of one of the clamps; clamp on that side reinforced with an extra (short) clamp. Ovaries and tubes left behind. Clamps lashed and vagina packed with iodoform gauze. (Length of operation two and one-half hours.)

Patient rallied well from operation, passed fifteen ounces of urine in first twenty-four hours. Clamps removed in forty-two hours. No hemorrhage; no temperature. Douches of corrosive 1-5000.

Dr. Whitney, who examined the specimen, reported as follows:

The cervix had been destroyed by the disease. The portion of the uterus remaining measured about eight centimetres in length. The walls were thickened and the mucous membrane replaced by a soft grayish, slightly opaque, shaggy and slightly polypoid growth which measured about one centimetre in thickness and could be followed some distance further between the bundles of muscular fibres.

Microscopic examination showed this new growth to be made of large tubercular glands very closely packed together and irregular in size, shape and distribution, in the most abundant parts assuming more the appearance of ordinary cancer, while in the younger growth their tubercular character was more easily made out. From these characteristics the diagnosis is of malignant adenoma starting from the mucous membrane of the uterus. "As far as can be determined the new growth seems to be confined to the parts removed."

The ligatures were removed on February 26th, they

¹ See page 200 of the Journal.

² See page 201 of the Journal.

being then found free in the wound. Patient had an attack of persistent vomiting on the 22d, aside from this she had no bad symptoms.

At time of her discharge from the hospital March 17th, the wound in the vagina had healed. There was a slight abrasion in left vagina vault.

April 25th. Specimen removed and sent to Dr. Whitney who reports: "Granulation Tissue."

CASE II. Miss M. R., forty-seven years of age. Seen October 31, 1888. Menstruation began at fourteen; always regular till last year; flowed five days, eight or nine napkins; no pain to speak of. The past year has been irregular, but for the most part has flowed oftener and longer, or has had a little bloody discharge. Some leucorrhœa of a watery character lately; foul odor and acrid. Bowels incline to constipation. Micturition frequent for years. Has had some sharp, shooting pains in region of rectum, and lately has been waked at night with acute pain in lower abdomen. Walking or standing tires her very much. Has gained flesh in the past year; sleep restless; nervous; appetite good; digestion fair. Last catamenia just over.

Operation November 1st. High amputation, my customary operation.

DR. STRONG said that, theoretically, the removal of the whole of a diseased organ should insure greater safety and immunity from a return of the malignant condition than removal of a part, which was all that was accomplished in high amputation. The fact that statistics show a higher percentage of return after total extirpation than after high amputation, was undoubtedly because the cases were not selected with the same care. The operation being comparatively new, and still, as it were, on trial, many patients underwent the operation, although the disease had invaded on either side the broad ligament. No operation, of course, could stay the progress when once it had reached this point. On the other hand, the limits of the operation of high amputation had been so thoroughly established, that cases were divided distinctly into two classes: first, where it was performed as a radical operation, with the idea of removing entirely the disease; and, secondly, where it was performed only as a palliative measure, and in compiling statistics these two classes were kept very distinct. That high amputation should compare so favorably with total extirpation in cases of epithelioma of the cervix, is due to the fact that the disease progresses outwardly upon the vagina and into the broad ligaments more rapidly than up the cervical canal and into the body of the uterus: therefore, if a case is seen in a sufficiently early stage, before these parts are invaded, it is rarely found impossible to amputate high enough to remove the whole growth.

With regard to the distinction between hyperplasia of the lining membrane of the uterus and malignant adenoma, a microscopical examination of the scrapings is a very unsatisfactory and often erroneous method of arriving at a diagnosis. Clinical considerations of the case outweigh that evidence. The one point the speaker has seen clinically demonstrated several times, but not often alluded to as a diagnostic fact, is, that the amount of tissue which can be removed in malignant adenoma by the sharp curette, is much less, usually, than that which is removed by curetting of hyperplastic endometritis, although the preceding hemorrhage may have been quite as severe. Repeated return of hemorrhage and discharge after curettings do not necessarily mean malignant disease. One case, in which he had

operated three times at intervals of six months, and which had previously been operated upon twice at intervals of a year, was completely cured and has remained so for six years, there having not been a single hemorrhage, and the patient being perfectly well. In another case, which he has under observation at the present time, the hyperplasia assumes the form of quite large polypi, which are removed by forceps more easily than by curette, and which grow with such rapidity that dilatation and cleaning out of the uterus is required at intervals of three months, and nothing of a malignant nature has ever been demonstrated, nor does the patient's health seem at all impaired. The uterus is steadily decreasing in size and a cure may ultimately be expected. In both of these cases large masses were removed. In another case, in which the disease was assumed to be malignant at first, the patient was cured twice after an interval of eighteen months; a very small quantity of tissue was removed each time, but the disease extended steadily and passed out along the course of the Fallopian tubes, subsequently involving the peritoneum, and causing death. This patient refused extirpation.

The development of renal disease in the case reported by Dr. Davenport is very interesting to the speaker, because he has found very frequently the advanced cases of both epithelioma of the cervix and cancer of the body of the uterus, terminating with this as a fatal complication. In choosing between the two operations of total extirpation and high amputation, it seems to the speaker that a great deal more weight should be given to the difference in severity of the two operations. Unless one thoroughly examines, under ether, and feels perfectly sure that the parts surrounding the uterus are not participating in the disease, total extirpation should not be performed, as the immediate shock, the complications following and during healing of the wound, are certainly far greater. In epithelioma of the cervix, which has involved the vagina, a free dissection and extirpation of the diseased vaginal portion, accompanied by high amputation of the cervix, is just as effectual as total extirpation of the organ, in his experience. One case in particular, which he has seen within a few days, in which he removed nearly the whole of the posterior wall of the vagina and a portion of the anterior wall and the cervix, and stitched the raw edges of the vagina to the stump, occluding the peritoneal cavity, made a perfect uninterrupted convalescence, and, twenty-eight months after the operation, there has been no sign whatever of return.

With regard to the use of the actual cautery at the time of the operation, and subsequent applications of caustics to insure further sloughing, his experience has been very satisfactory. The caustic which he employs is a solution of chloride of zinc, dissolved in equal parts of water, drachm for drachm: packed carefully and thoroughly into the wound left by the operation, as soon as the slough from the actual cautery has come away. This application is very painful for a matter of twelve hours or so, but after that it causes no trouble. The slough from this extends very deeply, but not so rapidly as to perforate the peritoneum. For those advanced cases of cancer in which the infiltration precludes any possibility of radical measures, and in which an operation of any magnitude would probably open the rectum or the bladder, the speaker thinks that just as little in the way of

operative treatment should be employed as possible. If the curettes and caustics be employed with a free hand, and a fistula is established into either of these organs, the patient's state certainly is not benefited, but a new misery is added to those with which she already contends. In these cases, his practice is to simply remove by gentle curetting the superficial mass of granulations, and repeating this as often as may be necessary to check any troublesome haemorrhage, and to trust that the disease in its natural course may extend so slowly as not to establish fistulae.

DR. BLAKE said that he was rarely so fortunate as to see cases early enough to operate on. The cases at the City Hospital were generally in advanced stages. He relied on curetting and the use of chronic acid.

DR. STRONG agreed with the last speaker that the majority of cases of cancer of the uterus did not present themselves until it was too late.

DR. BAKER said that the lateral extension of cancer of the uterus was a serious obstacle to operation, but the extension of the growth posteriorly into the upper wall of the vagina was not so important as that part can be removed, and he instanced a recent case where about half of the uterus was removed with a portion of the vagina behind; the vagina was then stitched to the uterus. Extension of the growth anteriorly is more serious, as we must then remove part of the bladder, leaving a fistula which has to be closed subsequently.

DR. INGALLS reported

A CASE OF CALCAREOUS FIBRO-MYOMA OF THE UTERUS,³

and showed the interesting specimen.

DR. HOMANS had seen cases where after the detachment of the fibro-myoma from the uterus, adhesions formed in such a way that loops of the intestine became strangulated and death was the result.

DR. DAVENPORT showed a

VESICAL CALCULUS REMOVED BY VAGINAL LITHOTOMY.

The patient, who was sixty-six years of age, had had vesical symptoms for ten years, being slight at first, but for six years severe enough to prevent her riding in a carriage, and forcing her to walk as little as possible. At first there had been an occasional sudden stoppage of the urine, lately not. Perhaps twenty times in all she had noticed blood in the urine after unusual exertion. The principal symptom was pain and dragging in the region of the bladder when she was on her feet for any length of time.

The stone was easily detected on vaginal examination. At the operation it was found that an incision two inches long reaching from the neck of the bladder to the cervix was not large enough to allow the stone to pass, so a second incision half an inch in length was made at right angles to it, beginning near the middle of the first incision. Through this the stone was with considerable difficulty extrated. The wound was immediately closed with eleven silver wire sutures. The convalescence was uninterrupted, the temperature never going above 99.5°, and the fistula healed throughout by first intention. She has several times since held the urine between five and six hours. The stone was examined by Dr. Wood and found to be pure uric acid. It weighed 1,200 grains.

³ See page 201 of the Journal.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON THEORY AND PRACTICE OF MEDICINE.

STATED MEETING, May 20, 1890, FRANCIS DELAFIELD, M.D., Chairman.

DR. W. B. WOOD read a paper on the

AFTER-TREATMENT OF OBSTETRIC CASES.

Without claiming originality for the views he wished to present, he said that the method of treatment which he advocated differed sufficiently from that commonly adopted to make the subject, he hoped, one of considerable interest. For some time past it had been a matter of observation to him that the number of cases of laceration of the cervix was really much greater than would appear from any statistics that had ever been published on the subject. In fact, he now believed that at best slight cervical laceration takes place in every one who gives birth to a child. Very many cases escaped notice because nature acted so promptly that the slighter degrees of laceration were repaired before the accoucheur made his examination.

During the past five years he had worked on the theory that if the slight forms of laceration were so ready to heal without any attention on the part of the physician, the severer ones would spontaneously heal in the same kind manner if the proper conditions for the accomplishment of this purpose were afforded. In his hands not only in no case had a fresh laceration remained unhealed, but in many older cases successful repair had taken place without any operative interference whatever. The importance of the method in question in preventing trouble could be readily appreciated. The best skill could not prevent, but could only modify and control laceration of the cervix. It had often been alleged that there was no more reason why parturition should be attended by such accidents than was the case among savage tribes; but such a statement was absurd. The fact that was pertinent to the question at issue, and that was quite sufficient to explain the results commonly met with, was, that as civilization advances the cranium increases in size, while the pelvic diameters diminish.

Outside of laceration of the cervix, there was no other condition following parturition which occasioned so much trouble as arrested involution. Five years' experience in the matter, however, had convinced him that this would yield to the same treatment. According to the best authorities it required from six to ten weeks for the uterus to return to its normal size and weight, and from three to four weeks for the vagina, and from six to twelve weeks for the relaxed uterine ligaments and appendages to resume their normal condition after confinement. Yet ordinarily it was in the second week, while involution was still far from completion and any lacerations that might have occurred during labor were still unhealed, that the woman was allowed to get up and go about. In consequence, the uterus dropped downwards and tipped out of its normal position; and under these circumstances it was not to be wondered at that the health of the patient became permanently impaired. The evils resulting had been admirably summed up by Emmet in his work on "Diseases of Women."

From his observations he was firmly convinced that these evil results could be avoided by the observance of proper precautions both before and after the puerperal period. Before her confinement the patient

should be educated up to a correct appreciation of the dangers attending them and of the appropriate means for escaping them. It was a fact that up to the present time the human uterus had never become thoroughly adjusted to the upright position, and that it could be said to be perfectly held in place only when the woman was in the genu-pectoral posture, or that of the quadruped. Under the most favorable circumstances it could be readily seen, therefore, how easy it was for the organ to slip out of position.

The treatment which he practised and advocated after ordinary labor was as follows: He kept the patient in bed for four weeks, and during fourteen to twenty-one days of this time she was to be kept strictly on her back. At the end of twenty-one days he made an examination, with the patient in Sims's position. After this hot vaginal injections were employed, after the manner of Emmet, if no lacerations were found to remain. If there were any lacerations the injections were to be omitted, as tending to interfere with the healing process. At the end of four weeks, if there were no abnormal conditions present, the patient was permitted to get out of bed; but before she did so she was placed in the genu-pectoral position, and the uterus was carefully supported before and behind by borated-glycerine cotton pads. Finally, the physician was to make an examination of the patient once a month for a year following her confinement, in order to see that no displacement of the uterus or abnormal condition had resulted.

In hospital and charity work such a course was impracticable; but in private practice it should be insisted on, and it would readily be consented to by the patient if she were properly educated up to it. There were few women to be found who would not willingly submit to any course of treatment which would relieve them from the necessity of an operation; and if in the case of any patient suffering from a laceration of the cervix resulting from a former labor, it was represented to her that with the observance of proper care after next confinement the trouble could be obviated without a resort to operative measures, the chances were that she would most cheerfully consent to the treatment prescribed.

Dr. Wood then referred to the matter of lactation, and said that, while nursing undoubtedly furnished a favorable stimulus to the uterus while undergoing involution, in many cases the advantages arising from this were more than counterbalanced by the evil effects of the drain upon the general system caused by it; and hence, in order that the woman might be afforded the most satisfactory conditions for a complete restoration to health after her confinement, it was often necessary that the infant should be weaned at an early period. In conclusion, he said that within the past few years the advances made in obstetrics and gynecology had resulted in an appreciable decrease in mortality from childbirth, as regards both the mother and the infant; and it only remained that we should adopt an after-treatment in cases of midwifery which would prevent subinvolution and permanent lacerations.

DR. J. WEST ROOSEVELT read a paper on

THE GROSS ANATOMY OF CHRONIC PULMONARY CONSUMPTION IN RELATION TO DIAGNOSIS AND PROGNOSIS.

He said that while the evidence of the existence of tuberculosis afforded by the discovery of the Koch

bacilli in the sputa was naturally absolutely unassailable, the absence of the bacteria must always leave a doubt in the mind as to the presence of the disease. There were so many important precautions to be observed, however, before the absence of bacilli could really be held to exclude consumption, that it was necessary to be very careful in estimating the value of negative observations. To exclude the disease by negative results in searching for bacilli it was necessary, first, that the examination be made by an expert examiner with a good microscope and good dyes; second, that a sufficient quantity of sputum be obtained and, third, that a very large number of observations extending over a considerable time be made. In all cases of suspected tuberculosis, however, the element of time was a very important one, and it would not do to waste too much time in examining the sputa. It was always to be remembered that it was not the bacilli in the sputa, but those left in the lungs that were to be feared; and hence we should not give the latter a good chance to increase while looking for the former.

It was natural that the results of the labors of both Laennec and Koch should have been misjudged, especially in respect to their value as negative evidence. In each case their value as positive evidence had been enormous; the bacillus, so far as we know, affording absolute proof. Positive evidence was naturally that first sought. In the case of almost all important additions to scientific knowledge the first general idea after accepting the facts was to see what they positively proved to exist. Long after this came the question of what they do not demonstrate; and of both Laennec and Koch's discoveries it might be said that this value of positive evidence was so great that their importance in excluding disease had been over-estimated.

In the present study we had nothing to do, he said, with the finer details of pathological anatomy. In order to understand his point of view, however, it was necessary to admit the following things: (1) The discovery of tubercle bacilli in the sputa furnishes positive evidence of consumption, or of tuberculosis somewhere in the air passages. (2) Chronic consumption of the lungs occurs sometimes in a form in which the lesions consist of more or less distantly separated small nodules, and sometimes in a form in which there is more or less widespread solidification of the lung. In either of these forms cavities may be found. In both the lesion first invades, in a large majority of cases, the apices of the lungs.

This anatomical classification was of importance mainly for diagnostic and prognostic purposes, and did not pretend to histological accuracy. The first variety, the discrete, embraced those cases which Delafield had placed in the first division of the class designated by him as chronic miliary tuberculosis. It also embraced certain cases belonging to Delafield's second subdivision, in which, beside tubercles, there is new fibrous tissue. In short, it was intended to mean any form of consumption in which the lesion is discrete and does not produce much solidification.

The second variety, the diffuse, for the purpose in hand included all cases in which the lesion is such as to solidify considerable portions of the lung in mass. Certain cases of Delafield's second division of chronic miliary tuberculosis were for convenience embraced in it, just as certain lesions much more complex than simple tubercular inflammation were embraced in the first form.

In the discrete form the nodules, varying in size, were separated by lung tissue which was physically normal or emphysematous. When in advanced cases cavities resulted from the breaking down of the nodules, they were usually of small size; and solidification of a portion of the lung, resulting from the increasing number of nodules, occurred only late in the course of the disease. There were usually more or less bronchitis and pleurisy, and also some emphysema of the kind known as compensatory. He believed that dilatation of the air vesicles and passages was caused by mechanical air distension; and it seemed very probable that the elasticity of a larger or smaller part of the pulmonary parenchyma was destroyed by the growth of new tissue if the thoracic expansion caused a negative pressure in the parts not affected which was greater than normal.

In the diffuse form the important clinical facts were, that consolidation occurred and produced, at a much earlier stage than in the discrete, recognizable physical signs, and that, in at least a large number of cases, the physical signs corresponded pretty closely to the patient's actual condition. The consolidation always, in his opinion, accompanied tubercular deposit, and the latter was always, as he also believed, the result of the growth of Koch's bacilli. The consolidated tissue sometimes consisted entirely of dense connective tissue. Sometimes patches of coagulation necrosis, diffuse tubercle, interstitial pneumonia, broncho-pneumonia, and peri-bronchitis were mixed in varying proportions in it. With this, as with the discrete form, there were usually bronchitis and pleurisy.

The clinical value of the classification temporarily adopted was that it recognizes the existence of cases in which the physical signs have no relation to the extent of the lesion; cases, moreover in which the bacillus is very likely not to be found at early date in the sputa. The discrete form furnished cases which were liable to be mistaken for primary tubercular disease of the larynx, for broncho-pneumonia, or for substantive emphysema. It had been his observation that in every case properly examined the tubercle bacillus has sooner or later been found; but in the meanwhile the diagnosis has often remained in doubt, and the discovery of the true nature of the disease has not infrequently come too late. In the diffuse form on the other hand, not only were the physical signs generally well-marked, but the bacilli were apt to appear in the sputa at an earlier date, and also to be more abundant from the first.

Having described a supposititious case in which the physical signs were doubtful and the sputum scanty or absent, so that the bacilli were discharged in small numbers, if at all, he said that such cases were not rare, and the recognition of this fact served to emphasize what was probably the most important point in connection with early diagnosis, namely: both physical signs and the negative evidence of the microscope are to be regarded only after careful study of the clinical history. Percussion, auscultation and the microscopic examination might reveal nothing; yet commencing consumption might be safely assumed to exist from the evidence of the patient's history and general appearance. The idea which he wished to convey was that cases may occur, and that not infrequently, in which tubercle bacilli cannot be discovered and in which physical examination of the chest gives no abnormal signs, or very vague ones; yet in which it is the phy-

sician's duty to make the diagnosis of consumption and to take proper measures for treatment, no matter at what cost. In the class of cases under consideration the chances of consumption being the trouble were so strong that the physician should risk his own reputation and perhaps put the patient to great inconvenience and pecuniary loss in order to save the life of the latter.

In speaking of the relation of the anatomical conditions to the physical signs he said that in the discrete lesion there might be nothing abnormal about the lungs except a few, small scattered nodules at, or near, one apex. In the great majority of cases, however, pleural adhesions existed from a very early period. With the few scattered nodules alone, there would, as a rule, either be no physical signs or these would be very vague and untrustworthy. The presence of pleural adhesions sometimes gave rise to special signs and sometimes did not. In certain cases it seemed quite possible that they caused the so-called "cog-wheel" or wavy respiration; and in others they might perhaps produce fine, dry or moist rales. Sometimes also they seemed to produce friction, stretching or tearing sounds. In early cases the adhesions were so often near the summit of the lung (where relatively little gliding motion of the pleura took place) that it was easy to understand how frequently it was impossible to demonstrate their existence during life.

It was not clear to him, however, why many signs attributed by a number of observers to pleuritic adhesions should really be caused by them. Why, for instance, the type of subcrepitant rale, sounding like the bursting of fine bubbles, should ever be produced by the stretching of tissue, moist or dry, it was difficult to explain. It was easy to say, and it at first seemed plausible, that an increase of serum in the pleural adhesions would produce this sound; but we did not positively know that this condition ever did actually give rise to it. Having spoken of the mechanical results of pleural adhesions, so far as the lung and chest movements were concerned, he said that in spite of very widely distributed and firm adhesions, it was possible for a lung seemingly to do its work as well as usual, and no symptoms whatever might indicate firm union between the pleural surfaces over the entire lung.

If, in addition to the nodules, there was enough bronchitis, signs of this alone might be found. Signs of bronchitis, with or without emphysema, upon one side of the chest could, as a rule, be regarded as valuable evidence of consumption, since bronchitis confined to one side probably occurred unless there was some local cause. When the nodules became sufficiently numerous to crowd one another pretty closely the lung was practically solidified, and the signs became those of consolidation. In such instances, however, the disease was far advanced. It was evident that in this form the physical signs bore but little relation to the extent of the lesion. The diagnosis in early cases must be made without too much regard for the signs, and the same was true of the prognosis also. In the absence of bacilli from the sputa the patient's general condition and history must be the main guide.

DR. J. S. ELY related the case of a woman at the Roosevelt Dispensary in which the physical signs were entirely negative, but in which he was led to make the diagnosis of chronic miliary tuberculosis from the progressive emaciation and general appearance of the

patient. It was impossible for her to leave the city, but under treatment she steadily gained in weight and strength. About six weeks ago she was attacked with a severe pain in the left eye, but Dr. Ely could not detect any trouble about the organ. Dr. Weeks, however, to whom she was referred for examination, discovered four or five miliary tubercles far down on the edge of the retina; thus confirming the diagnosis made. It seemed to him that the early diagnosis of tubercular disease of the lungs had come to assume a specially important aspect in view of the now very generally recognized fact that many cases could be cured if they were taken in time. It was often said that Koch's discovery had added nothing to our knowledge of the treatment of phthisis; but there could be no possible doubt that it had already been of great practical service. The results of the experiments made by Dr. Trudeau on rabbits, he thought, were of the greatest possible value in this connection. While all the rabbits inoculated with tubercular virus which were confined in an unhealthy environment died, only one of the inoculated animals which were given the best possible environment died. An examination of the lungs of the rabbits which recovered showed that the tubercles had become encapsulated, and were thus rendered incapable of doing any further harm. In the light of such results it could readily be seen that it was of vital importance that we should be able to recognize the presence of the disease at the earliest possible moment.

Dr. F. W. JACKSON related, by way of contrast, a case directly the opposite of Dr. Ely's, in which the patient presented the appearance of more than ordinarily robust health, and gave no history of anything like phthisis; and yet in one of her lungs, to his great surprise, he found a cavity. Afterward the patient's health gradually broke down, and the other lung became involved also. While, therefore, in some cases we had to make the diagnosis without the aid of physical signs, in others, on the contrary, the diagnosis had to be made from the physical signs alone.

His observations had led him to believe that pleural adhesions were very frequently present without giving rise to any physical signs, and he thought this was not generally recognized. Another point not sufficiently appreciated to which he desired to direct attention, was the fact that râles, due to whatever cause, were not constant. Thus they might disappear and reappear while the patient was actually under examination. Two lessons might be drawn from this circumstance. In the first place, it should teach us charity to our neighbors, as it would explain the reason why a râle heard by one auscultator sometimes could not be detected by another. In the second place, we might learn from it that a single examination was not sufficient to furnish a clear diagnosis.

Dr. E. V. AGRAMONTÉ said that he regretted that Dr. Roosevelt had not said more about the subject of prognosis, since there were a considerable number of cases of phthisis which seemed to recover.

Dr. ROOSEVELT said that he had been obliged to omit a portion of his paper relating to the matter of prognosis. While the statement made by Dr. Flint some years ago that about fifty per cent. of all cases of phthisis recover was no doubt strictly true, he thought that it had been productive of considerable harm by encouraging physicians to take a more hopeful view of the disease than they ought. The statement was based

on the fact that so many cases of cured pulmonary tuberculosis were found in the dead-house; but it was to be remembered that such an estimate would, by no means, apply to the consumptive patients who come to us for treatment.

DR. MAX EINHORN read a paper entitled,

DEMONSTRATION OF A NEW METHOD OF OBTAINING SMALL QUANTITIES OF STOMACH CONTENTS FOR DIAGNOSTIC PURPOSES.

After referring to various devices which had been suggested as a substitute for the stomach-tube, the use of which it was especially desirable to avoid if the presence of an ulcer was suspected, he described and exhibited upon three patients a new method of his own for obtaining small quantities of stomach contents. The instrument he employs is a hollow oval vessel made of silver, one and three-quarters centimeters long, and three-quarters of a centimeter wide, and having a narrow opening at the top. In introducing it the operator carries it to the back of the pharynx near the root of the tongue, and then instructs the patient to swallow. To the vessel is attached a thread in which a knot is tied at a distance of about forty centimeters from the vessel, so that it can be known when the latter reaches the stomach. It usually takes about five minutes for it to pass down through the oesophagus. In case much mucus is likely to get into it before it reaches the stomach, from a catarrhal condition of the upper air-passages or the oesophagus, it can be carried by a gelatine capsule which will be dissolved in the stomach. With this instrument Dr. Einhorn said they were able to ascertain (1) the permeability of the oesophagus; (2) whether the cardiac orifice of the stomach is clear or not; and (3) the contractions of the stomach, as indicated by the drawing-in of the thread.

Recent Literature.

Saunders' Question-Compendia, No. 5. Essentials of Obstetrics, arranged in the form of questions and answers. By W. E. ASHTON, M.D. Philadelphia: W. B. Saunders. 1890.

This manual is intended to assist students in mastering the essentials of obstetrics, and is based on the standard works of the day. As the book has reached its fourth thousand, its use has doubtless proved advantageous: being arranged in the form of questions and answers, it must be a convenient means of testing the students' knowledge while preparing for final examination. It is unfortunate that the new obstetric nomenclature has not been employed; to one already accustomed to the new methods of designating fetal positions, the nomenclature of this manual, especially of face and shoulder presentations, must be inconvenient and perplexing.

Electricity in the Diseases of Women. By G. BELTON MASSEY, M.D. Second edition, revised and enlarged. Philadelphia and London: F. A. Davis. 1890.

It is only a few months since we noticed the first edition of this little book; and it is only necessary to add now that we consider it the best treatise on this subject we have seen, and that the improvements introduced into this edition make it more valuable still.

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THE FUNCTIONS OF STATE BOARDS OF HEALTH.

In the year 1849 a commission was appointed by the Legislature of Massachusetts to report upon a plan for "a sanitary survey of the State, together with a statement of such facts and suggestions as they may think proper."

The report of this commission, made in the following year, was in every particular a model of excellence, and as a comprehensive and far-sighted report has served as a guide for very much of the sanitary legislation which has followed. Among the important recommendations of the Commission was the following: "We recommend that a *general Board of Health* be established which shall be charged with the general execution of the laws of the State relating to the enumeration, the vital statistics, and the public health of the inhabitants."

It was not, however, until twenty years afterward that the Legislature of 1869 carried these recommendations into effect, and established the State Board of Health by law. The wisdom of this measure has been apparent year by year, as new and important duties have been entrusted to the Board.

Among the important functions of the Board, as defined by law, are the following: "To take cognizance of the interests of health and life among the citizens of the Commonwealth; to make sanitary investigations in respect to the causes of disease, and especially of epidemics, and the sources of mortality, and the effects of localities, employments, conditions and circumstances, on the public health, and to gather such information upon these matters as it may deem proper for diffusion among the people." To these general duties have been added in later years the general supervision of food-inspection and the over-sight of public water-supplies, etc. In the succeeding years since the creation of the Board other States have followed the example of Massachusetts, until nearly every important State now has an active board of health. In some States, notably in Illinois, the Reg-

ulation of Medical Practice has also been entrusted to the State Board of Health.

How well these numerous bodies have performed the functions assigned to them, is shown by the numerous excellent reports which have been published.

It might reasonably be supposed that the wide fields of the Western States should furnish abundant material for sanitary inquiry, and such is the case; but there are some noted exceptions in the material presented for the reader who is in quest of advice upon matters pertaining to preventive medicine, as the following extracts will show.

In the Report of the State Board of Health of — for the present year appears the following:

"**THE Tipton County Twins.** — Through the courtesy of Dr. — we are enabled to present a cut of a monstrosity, girl babies born to — and wife, of — on the 24th of June last. They are now being placed on exhibition in the large cities of the country."

Then follow three full-page illustrations of this infant monstrosity together with a full discussion of the important *sanitary and hygienic* questions as to "whether the legs on one side belong to one child, or does one leg on each side belong to each child?"

This piece of information would be interesting in its proper place, but that a body of gentlemen known as a State Board of Health should appropriate the public funds to the publication of such material is incomprehensible. The same report has the following alarming statement, or estimate as to the suicides, and this in a State of about the same population as Massachusetts. It is estimated that "the suicides in 1889 in this State were 900, far more than were caused by those bugbear typhoid fever or cholera infantum, and surpassed by only the diseases, phthisis and pneumonia. The attempted suicides are estimated at 4,725 cases, or if we apply to the whole State the dispensary average of fatalities to attempts as *one in twenty*, we would have a grand total of 18,000 cases!"¹ This marvellous statistician very cautiously adds, "but figures will lie, and I hope my ingenious imaginary ones do."

The following bit of useful information also is published in the monthly Bulletin of another State Board of Health:

"**CHewing GUM A HEALTHFUL EXERCISE.** — We have seen the most excitable young lad with a highly-strung nervous organization under his maturing influence, become a quiet and contented as the well-fed cow that lies in the barnyard chewing its cud. We know of nothing that will, with anything like such indomitableness (*sic.*) endure so much mastication. We have chewed a piece of this gum contentedly for two hours without any perceptible change in its bulk, and after remaining under the seat of the chair, on the under side of the table, or on the bed-post over night, if not found and confiscated, it was ready for as grand service as when first pressed between the molars.

"We believe that every ship sailing upon the high seas should be well supplied with chewing-gum; and in time of danger of shipwreck the passengers should be furnished with at least a half-dozen pieces, so that if cast upon some barren and uninhabitable coast or island, they might have something with which to beguile the weary hours; and we know of nothing so innocently beguiling."

What need of wasting time in the investigation of infectious diseases and their causes, and the prevention of pollution of water-supplies, when such useful fields of inquiry are presented as the foregoing?

¹ The entire number of suicides in England, with a population of 30,000,000, is less than 2,500 in a year.

CHEMICAL ALTERATIONS OF THE GASTRIC JUICE IN ACUTE AND CHRONIC MALADIES.

THE condition of the gastric juice during febrile states has been studied of late by Wolfram.¹ In the acute pyrexias which included a case of exanthematic typhus, two of intermittent fever, four of typhoid fever, six of pneumonia, the gastric juice, though containing pepsin, showed not the least trace of hydrochloric acid. In several chronic cases, including one of double fibrinous pleurisy lasting two months, and one of phthisis-pulmonalis, the gastric juice was normal. Uffelman and others, on the contrary, claim to have seen cases where the fever was not accompanied with absence of hydrochloric acid in the gastric secretion.²

The alterations in the gastric juice in phthisis have been studied, particularly in Germany, by Hildebrand, Rosenthal, Klempener, Immermann and others. According to Hildebrand, the normal acid is wanting when there is continued fever, while it is always present when there is no elevation of temperature. Brieger's observations agree in the main with these results—the acid was wanting in nineteen out of thirty-one cases. At the end of the disease there was present gastritis, with atrophy of the glands.

Rosenthal found that, whether in the earlier or later stages, the gastric juice of phthisical patients was generally devoid of free hydrochloric acid.

Klempener distinguishes the initial from the terminal dyspepsia. There is beside a pretubercular dyspepsia, in which the secretory activity is normal. In the initial dyspepsia, Klempener affirms that there is generally *hydrochloric hyper-acidity*. In the final stages he has found the hydrochloric acid deficient or wanting, and the processes of fermentation very much developed. He believes these latter phenomena to be the expression of a sub-acute or chronic gastritis.

In fifteen cases, Einhorn found the natural acid wanting in two cases, intermittent in one, and constant in twelve.

According to Shetty, there is always hydrochloric acid in the gastric juice in phthisis; sometimes this acid is in excess.

To sum up: It will be seen that there is nothing constant relative to the proportion of hydrochloric acid in the gastric juice of phthisical patients; in febrile cases the acid is generally found wanting; in the afebrile it may exist in the normal quantity or even be in excess.

Chelmonsky has in several cases noted absence of hydrochloric acid and diminution of pepsin in emphysema; he has frequently found this acid absent in the course of chronic phthisis.

In anæmia and chlorosis, Riegel observed the proportion of hydrochloric acid to be higher than the normal in three carefully-studied cases, and Ritter and Hirsch have claimed similar results from their rather incomplete analyses.

¹ Deutsche Arch. f. Klin. Med., t. xlii, p. 481. Cheron, in Bull. gen. de ther., t. exviii, p. 321.

² Cheron, loc. cit. (We have drawn largely from this article.)

Hayem, in cases of chlorosis, has found the digestive operations to be sometimes normal, and sometimes profoundly altered; in the latter cases there was deficiency of hydrochloric acid, with dilatation of the stomach. In no case did Hayem find hydrochloric excess.

Georges has noted hydrochloric deficiency in the anæmic patients whose gastric secretions he has examined, while the organic acids existed in large proportion.

In a case of grave anæmia consecutive to hemorrhages, Lyon found absence of hydrochloric acid.

In diseases of the heart, according to Hüller, whether the affection be valvular or muscular, the consecutive circulatory stasis, even when it is little pronounced, suffices to enfeeble or even to destroy the power of the stomach to fabricate acids. Of ten patients, nine had hydrochloric deficiency.

Sandberg and Professor Lée have also noticed absence of hydrochloric acid in cardiac affections.

According to Einhorn and Ewald, the hydrochloric acid only disappears in cardiac patients when there is a catarrhal gastritis.

Want of hydrochloric acid in the gastric juice has been found in diabetes, gout, uremia, progressive pernicious anæmia, and in Addison's disease.

According to Bourget and Georges, there is always enough pepsin, or at least of pepsinogenous substance in the stomach. These writers do not believe in the remedial properties of this ferment, when therapeutically administered, and here they indicate a divergence from a considerable clinical experience, which attests to the efficacy of artificial pepsin in many digestive disorders.

MEDICAL NOTES.

— Cholera is reported as quite prevalent in many parts of Japan. In Nagasaki the number of new cases at time of mail advices (July 29th) were one hundred a day, and the deaths forty-five per day. In Tokio the disease is but slightly prevalent as yet; but in Yokohama harbor, which is a great centre for shipping, a number of cases have appeared.

— Asiatic cholera now prevails on the Arabian shore of the Red Sea, in Cairo, at Baku and Nicolaeff, in Russia, and in several provinces of Spain. From Valencia the disease has been carried to several other coast provinces, to Madrid and across the country to the borders of Portugal. Cholera first appeared near Mecca this year on July 28th, and the daily mortality in Mecca and Cairo was several hundred a week later. At first the Egyptian Government sought to bar out the disease by preventing the return of the pilgrims northward, and the strictest quarantine was enforced, but, in all probability, the infection had passed before these precautions were taken, for there are cases of cholera in Cairo, and it is probable that there are cases at ports further westward on the southern shore of the Mediterranean.

— Dr. Junker, whose name is familiar to those who have followed the recent literature of African exploration, is said to have learned in Central Africa to relish fried ants, and lived for years on a negro bill-of-fare. He goes so far as to say that, in his opinion, the white man who accustoms himself to native food will keep in better health than if he enjoyed the best of European cookery. At first he viewed with positive repugnance a good deal of the food that was placed before him, but he soon learned to eat negro dishes with a good appetite. It was his rule of life in Africa to adapt himself as nearly as possible to native customs and usages, whether he was living among Arabs or negroes; and this practice saved him from many trials and perplexities when the resources he had brought from Europe were exhausted. Whether he recommends carrying conformity with native diet to the point of anthropophagy, is not stated.

— The equity suit between the officers of the Medico-Chirurgical Hospital of Philadelphia, and certain owners of property adjoining the site of the new building of the hospital, has been settled by mutual agreement. The bill in equity was entered on July 5th by the owners of property, to restrain the managers of the hospital from placing windows in the party walls of their new building, on the ground that they would be annoyed by the disagreeable sounds and sights. A survey of the premises shows that the old building, to which a story was to be added, was three inches over the party line, and that the new building was one and one-half inches over the line. Upon these facts being submitted the suit was stopped and a compromise arranged. It allows the managers of the hospital the privilege to put in immovable windows of translucent glass with movable panels of stained glass in the new building, and forces them to limit the inmates of the wards to patients in a convalescent condition.

— As a rule, the medical colleges in the South are not up to the ideal standard. For instance, in the annual announcement of the Medical College of Georgia this frank confession is made: "Our graduates may not be classed as scientific physicians; they may not be able to locate cerebral diseases with the accuracy with which the old phrenologists could place the mental faculties; their abdominal surgery may lack the boldness of Jack the Ripper; they may not distinguish the bacterium from the comma-bacillus, but they will in a few years be able to apply the resources of medical science and treat the peculiar diseases of their localities with a practical shrewdness which would astonish those of more ambitious training."

NEW YORK.

— New York physicians are very considerably interested to find that from this time onward it may be regarded as a misdemeanor for them to attend any of their patients who may reside in the neighboring State of New Jersey, or who may be taken ill while visiting there. At the recent session of the New Jersey Legislature a law was enacted which is now

operative, providing that every person practising medicine in the State must be accredited by a State Board of Examiners, before whom he or she must pass an examination in writing. No physician going into the State will be entitled to register with any board of health unless upon presentation of a certificate from the Examiners; and a board of health may refuse to accept a death certificate from any unregistered physician. The penalty for practising in the State without the authorization of the Board of Examiners is a fine of from \$50 to \$100, imprisonment for from ten to ninety days, or both.

According to the provisions of the law the Board is to consist of nine members, of whom five are to be of the regular school, three homeopaths, and one eclectic; and three vacancies to be filled will occur each year. Under a strict interpretation of this law a New York family at a New Jersey summer resort will not be able to summon a physician from New York without incurring the risk of exposing him to the penalties of its infringement. Dr. B. A. Watson, of Jersey City, has expressed the opinion, however, that the law was not intended to operate as stringently as its language might imply, and that any reputable New York physician going to visit a patient in New Jersey would not be molested.

Miscellany.

THE NEW SURGEON-GENERAL.

THE President has nominated Colonel Jedediah H. Baxter, chief medical purveyor of the army, to be surgeon-general with the rank of brigadier-general, in place of General Moore, retired at the age of sixty-four.

Dr. Baxter was born in Vermont, May 11, 1837, and is the son of the late Portus Baxter, for several years a Representative in Congress. He entered the army as surgeon of the Twelfth Massachusetts Regiment of Volunteers (Col. Fletcher Webster's) being mustered in on June 26, 1861. He has been in continuous service in the army from that time. He was promoted to be brigade-surgeon, United States Volunteers, April 17, 1862, and served with distinction in the Peninsular campaign with the Army of the Potomac. He was surgeon in charge of the United States General Hospital Campbell at Washington, one of the largest hospitals in the United States, from the time it was opened until January, 1864, when, at the request of General Fry, provost marshal-general, he was detailed on the latter's staff and assigned to duty as chief medical officer of his bureau. In that capacity Surgeon Baxter collected the records of the physical examinations of more than one million men who presented themselves for admission into the army and compiled therefrom an extensive work on vital statistics. At the close of the war, Surgeon Baxter was appointed assistant medical purveyor, with the rank of lieutenant-colonel, and was promoted to be chief medical purveyor by President Grant in 1872. Dr. Baxter is a graduate of the University of Vermont, from both the academic and medical branches of that institution.

THE NEW YORK FLOATING HOSPITAL.

THE New York *Times*, in a recent issue, contained an interesting sketch of the floating hospital in the harbor, maintained by the St. John's Guild, from which we subjoin some extracts:

"The barge leaves North River, foot of West Forty-fourth Street, at 8 A.M. Mondays and Thursdays, and East River Tuesdays and Fridays, so both the East side and West side sufferers may have equal benefits. Long before the hour for leaving the wharf the people begin to gather from all directions. The mothers and children are soon in as orderly lines as can be formed. The well-trained men and women of the Floating Hospital understand them and their needs, and treat them accordingly. The efficient 'doctor' stands on the gangplank to review and see the card of every one in that army of the great unwashed. He speaks several languages, and can talk to each woman in her own tongue. He carefully scans each comer. 'No contagious disease allowed on board,' is the health-saving mandate on the cards of invitation.

"The ones not very ill, simply ailing and suffering from the heat, go on the upper deck of the barge. The sick ones, mothers or children, stay on the lower deck; they have the privilege of going to the Seaside Hospital, on the south side of Staten Island. This hospital is under the same management as that of the Floating Hospital. The barge is moored midstream when nearly opposite the Seaside Hospital. A certain number of flags are on its flagstaff. From these the captain of the barge learns how many vacant beds there are, and how many women and children can be accommodated. Rowboats are lowered, and squads of women and children, with their bundles, are lowered into the boats.

"Those that go to the Seaside Hospital are received by a pleasant-faced matron. They are registered and assigned to their wards. Three trained nurses and two doctors attend to the needs of the patients. It is a great treat for these poor women to spend from two to ten days amid such clean, pleasant surroundings. They have good, plain food, well-cooked and neatly served. They can bathe in the salt water. A sandy beach is near the hospital. They can walk or sit or sew in the grateful shade of a grove of cedars in the rear of the building. They are expected to wash their own garments — some of them have none to speak of. The laundry is conveniently near, and they can absorb practical ideas about cleanliness. The contrast between the outgoing and incoming recruits of the hospital is gratifying to the beholder.

"The vast crowd on the Floating Hospital fare well. Milk is furnished twice a day for the young children. The policemen form them in line. They each have a milk ticket and a cup or pickle bottle, or most likely a whiskey bottle, which is handed over to the patient genii of the big milk kettles, who fill the receptacles with good, pure milk. A warm meal is given on board the barge at high noon to the adults and children. Three hundred places are set for them, and reset three times over. They come in battalions of three hundred down the stairs, guided by the policemen, so in their haste they will not stumble on their neighbors or crush them.

"A host do not wash themselves, and of course cannot be expected to wash their garments. This omis-

sion is provided for as far as the children are concerned. The doctor of the Floating Hospital gives bath tickets to children who want them. They come in files of ten to the woman who superintends their bathing. She has five bath-tubs big enough to hold two water nymphs — one at the upper end and one at the lower. She washes them all so systematically that she bathes between eighty-two and ninety during a day. This is the only bath some of them ever get."

THE TREATMENT OF CYSTITIS IN WOMEN.

THE following is an abstract of a paper written for the Obstetric Section of the Berlin International Medical Congress by Thomas More Madden, M.D., F.R.C.S.(Ed.)

"Of all the diseases which come before us in gynaecological practice there is none more frequently met with, more distressing in its effects, or more intractable to the means generally relied on for its relief than cystitis in women. I therefore desire to bring under the notice of the International Medical Congress a method of treatment which I have found, by clinical experience, to be generally successful in the rapid curative treatment of this condition. The measures most commonly employed in such cases are merely palliative, and may relieve but *per se* can never cure well-established cystitis in women. Nor am I aware of any method by which that can be accomplished save by giving the bladder absolute physiological rest. For this purpose Dr. Emmet's operation, that is, the establishment of an artificial vesico-vaginal fistula, may be successfully employed in some instances, but the practical objections to it are so great and obvious that for several years past I have abandoned this procedure in favor of another which I have found more generally effectual, and quite free from the disadvantages of the operation referred to. The plan which I have now employed in a very large number of cases of cystitis in the gynaecological wards of the Mater Misericordie Hospital, Dublin, consists firstly in the full dilatation of the urethral canal with the instrument exhibited, so as to paralyze the contractility of the sphincter vesicae and canal, and thus produce a temporary incontinence of urine; and secondly, in the direct application through the same instrument of glycerine of carbolic acid to the diseased endo-vesical mucous membrane. I may add that any pain thus caused may be prevented by the previous topical application of a solution of cocaine, and that the procedure recommended seldom requires to be repeated more than once or twice at intervals of a week or ten days; and combined with the internal use of boric acid, rarely fails to effect a rapid cure in any ordinary case of female cystitis."

PAROXYSMAL PULMONARY EDEMA IN CHRONIC ALBUMINURIA.

PULMONARY edema in cases of chronic renal disease is an important factor, and Professor Bouvieret, of Lyons (*Revue de Méd.*, pp. 241-251, 1890, and *Practitioner*, August, 1890), is anxious to call attention to a paroxysmal form which seems to him, though rare, not to have received sufficient attention. The characteristic symptoms are a rapid onset of dyspnoea, with a very abundant albuminous expectoration.

Such attacks recur rapidly, ending either in death or in sudden and complete relief. Dr. Bouveret has met with only two cases; both of them in patients with chronic interstitial nephritis. In the first, a man, aged sixty-two, who had long-standing granular kidney, the dyspnoea was very severe, though irregular, for four days before death. The tension of the radial pulse was very high throughout. The sputa amounted to about three pints *per diem* of a frothy and highly albuminous liquid, with occasionally a trace of blood in it. Patient was bled and cupped, and treated with strong hydragogue purgatives, but died in asphyxia, at a temperature of 104.2°. The necropsy showed much destruction of the cortical tissue of the kidneys of old standing, extreme cardiac hypertrophy and dilatation, and a remarkably abundant oedema of the lungs, with no broncho-pneumonia. In the second case, a man, aged forty-five, there were in two years three crises of dyspnoea, and abundant albuminous expectoration, followed in each instance by a rally. In the last and most violent crisis, which came on very suddenly, and without apparent reason, when he was going to bed, and lasted only four hours, he coughed up about three pints of fluid. The day after the attack he felt strong enough to get up and do some work. He was probably in an early stage of contracting interstitial nephritis. At the times of dyspnoea and abundant expectoration very little urine, and that of high specific gravity, was passed; at the other times it was abundant and of low specific gravity. His heart was not much hypertrophied, and its valves were efficient. Fränzel, in discussing similar symptoms, inclined to attribute them to a loss of equilibrium of energy between the right and left ventricles; the left ventricle in fact giving way suddenly under its constant heavy work. That is a view supported by Dr. Welch, but quite inconsistent with the high arterial tension in the first case mentioned, and with the normal tension and very slight cardiac hypertrophy in the second case. Professor Bouveret is inclined to suspect a vaso-motor paralysis of the pulmonary arterioles, though he admits he cannot point to the nervous origin of this vaso-motor paralysis. He advocates a treatment by bleeding, dry cupping, poulticing the thorax, and administration of hydragogue purgatives and alcohol in large doses; in extreme cases of cardiac failure, subcutaneous injection of caffeine and ether. In the first case such treatment was adopted without success.

Correspondence.

[From our Special Correspondents.]

LETTERS FROM THE BERLIN CONGRESS.

BERLIN, August 6, 1890.

MR. EDITOR:—Truly American midsummer weather greeted the stream of doctors which poured into Berlin during the latter part of last week, and made, at any rate, our countrymen feel at home, even if unpleasantly so. Fortunately there is here no *costume de rigueur*, and all except our English *confrères* promptly exchanged their silk hats and thick black coats for more comfortable garments. "Doctors, doctors, everywhere; and all sorts of things to drink!" were the first impressions of the newly arrived. The corridors of all the principal hotels were filled by the learned-looking gentlemen—of all nations, of all ages and sizes, from the renowned aged professors to the recently

graduated American medical students enjoying that blissful period of absence of responsibility and the pleasures of European life before taking the fatal plunge into the hateful office chair and contemplation at home. Familiar faces were seen on all sides.

Monday morning found the foreign members, for the most part, in a state of hopeless confusion as to what was to take place, and where to search for light. In a lamblike procession they entered the doors of the central bureau in the Leipziger Strasse, and were there furnished with members' cards and programmes, and with these in their hands flocked in *droschkas* to the Circus Rentz, to the first general meeting of the Congress. Arrived there, they learned that, instead of three or four thousand delegates, there were between five and six thousand, and more to come. Many of the men had sent word of their intention to attend the Congress but a short time before its opening, and a considerable number of papers were sent in at the last minute. These two facts threw such an unexpected load of work upon the executive committee that, of necessity, it was impossible to dispose of it all as smoothly as would have been the case with a less unwieldy body.

One very excellent feature of arrangement was that of a "Committee for Lodgings," which did much to mitigate the discomforts which would else have arisen from the crowded condition of the hotels.

When, at last, the great assembly was seated in the Circus Rentz on Monday morning, it was addressed by its president, the renowned Professor Virchow, whom Time seems to have forgotten, so little is he changed in fifteen years; and the Congress was formally opened. A statement by the Secretary, Dr. Lassar, that there were 140 French members and 630 Americans, called forth loud applause.

The sessions of the separate sections were, for the most part, held in the various rooms of the great *Landes Ausstellung* building. On entering the grounds in which it stands, we were directed to a small building on one side, in which was a bureau of general information, where one obtained programmes, lists of members, and a journal of proceedings, issued daily. By the latter we were informed as to the papers to be read in the different sections, places of meeting, hours, etc. Unfortunately, the information was frequently incorrect. As, for example, in one copy of the journal it was announced that Billroth would read upon "Operations for Cancer of the Stomach," at 3.30 p. m., in the *Landes Ausstellung*, in the Surgical Section. He presented his paper at ten that morning, and there was no afternoon session at all. Again, Dr. Keen, of Philadelphia, was announced to read upon "The Surgery of the Lateral Ventrices," one morning, and after two days of waiting, was called upon when he had not been announced at all.

These annoying *contretemps* were frequent. The number of men, the size of the rooms, and the noise of coming and going also, in the larger sections, made it impossible for any but those in the front row to hear anything.

One of the most interesting debates in the Surgical Section was upon "The Operative Treatment of Rectal Cancer." Professors König, Czerny, Lange (of New York), advocated extensive resections, and Mr. Bryant (of London) lumbar colotomy, in preference.

On the third day, the Surgical meetings were transferred to the amphitheatre of von Bergmann's clinic, and became much more satisfactory, owing to better acoustics and ventilation. This meeting was presided over by Professor Lister. There Schede (of Hamburg) showed, in patients and by photographs, some admirable and striking results of his extensive rib resections for empyema. Ziegler also showed a patient in whom he had extirpated the larynx two years ago for carcinoma, who had had no recurrence, and who could speak plainly.

MacEwen (of Glasgow) read before the Orthopedic Section an able paper on "Osteotomies," and was one of the most striking personalities of the Congress.

The single communication which called forth the most enthusiasm was that of Professor Horsley before the Neurological Section, on "The Innervation of the Larynx."

Perhaps the most satisfactory feature of the Congress was the exhibition of surgical apparatus, instruments, antisepsics, etc., which was very complete, and contained much that was new and of value to be seen. Pyoktanin (the new antiseptic) dressings were shown. Various forms of operating-tables were exhibited, the best feature of which was that of a heavy, solid rubber covering, easily cleaned. The tables on wheel-feet, with glass sides and tops, and light iron frames, for carrying instruments and dressings in the wards and amphitheatre, were also excellent.

The most remarkable surgical (one is tempted to say eccentricity) performance shown in the whole Congress was that of Professor Gluck of Berlin, who presented several patients whose knee and elbow joints he had excised, and thereafter substituted ivory joints instead. The patient upon whom this singular essay had been longest under trial was one upon whom the operation dated three months back. In two instances the professor had succeeded in giving the patients moderately movable joints, but in no case were the wounds fully healed and free from suppuration. And in one from whom he had subsequently removed one of his ivory joints after it had been worn for some time, on account of local trouble to which it gave rise, the ivory was seen to be partly eroded, as though beginning to be absorbed. This surgical experiment was viewed with decided scepticism as to its ultimate success by the majority of those who saw it, while, nevertheless, they appreciated the cleverness of the feat.

The social features of the Congress were manifold and varied. Many private houses were thrown open to the wives and families of the members, numerous small and very delightful receptions taking place in this way, which were a great boon to the ladies, who were of necessity left to their own devices during many hours of the day.

Of the public entertainments, that of the Bürgermeister and city officials at the Rathaus was the most notable and least fortunate. To say that during the better part of the night boisterous good-fellowship reigned supreme amongst the three thousand men who attended the festivity, is perhaps to express its character as mildly as is consistent with the facts.

On Wednesday evening the various Sections dined at the different hotels. The Surgical Section, to the number of more than seven hundred, assembled at the great hall of the Central Hotel. Von Bergmann presided, on his right Prince Carl Ludwig of Bavaria, on his left Sir Joseph Lister. Amongst the guests at the president's table sat Sir James Paget, Bardleben, Dr. Billings, Sir William McCor-
mac, Von Esmarch, Dr. LeFort, Péan, Bilroth, Mr. Bryant, and some thirty others. A full orchestra drowned all other sounds. The speeches were made between the courses, a most wise provision for occupying the long intervals. All the German speakers took care to be especially complimentary to their French *confrères*, which of course was to be expected. The only name whose mention called forth general applause was that of Lister, who, as the father of antiseptic surgery, received hearty recognition.

At the dinner on the same evening of the Section of Clinical Medicine, the most noteworthy speech was that of the Italian Bacelli, who, with all an Italian's oratorical power and grace, delivered a speech in three languages, gliding gracefully from Latin to Italian and finally French with most consummate art, and a delivery worthy of Salvini.

On Friday and Saturday the exodus began, and by Sunday morning but few of the foreign members remained.

And so ended the greatest of the International Congresses up to the present time, though in the opinion of many by no means the most satisfactory. The management was freely criticised, and it certainly left much to be desired; but it should be taken into account that nearly twice the number of men attended the Congress that was expected; and it was perhaps too much to ask of any committee, under the circumstances, that all should go smoothly with so unwieldy a body. The mere seeing and hearing so many of the greatest masters of the profession was in itself of much value. And the published proceedings will later

give ample evidence of the quantity of work of the highest order that was presented.

For the gratification of our pride in our own national surgery, it was to be noted, that, although happily we had much to learn from our *confrères* here, we can also feel that we are in most matters quite abreast of them, and excel in some.

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BERLIN, August 9, 1890.

MR. EDITOR: — At the close of the Tenth International Medical Congress, I send a very brief statement of some of the interesting features of this, in many respects, most noteworthy of all medical congresses hitherto held. The official register of names states that there were 5,737 members. These were accompanied by more than 1,000 ladies; while, in addition, 143 persons were registered as taking part in the Congress, although not as actual members. Berlin has opened its doors to this large assemblage of strangers, and the citizens have received into their homes those whom the hotels could not admit. Of the foreign members of the Congress, the largest number, 659, came from the United States; 429 were from Russia, 358 from Great Britain, and 179 from France. It was feared, until the last moment, that the French would find it impossible to so far forget national strife as to join in the amicable pursuit of science — science, which knows no limits of time or space or peoples.

It is impossible to give any accurate information of the amount of work which has been done. The member interested in the work of any given section would find all his time occupied in listening to the papers and discussions, and in witnessing the demonstrations given by members of his own section.

As an illustration of the work of the sections, brief mention may be made of some of the points of interest in that relating to pathology and pathological anatomy. This was practically under the guidance of Professor v. Recklinghausen, although changes were regularly made in the chairmanship to compliment the many distinguished members from various countries. There were three general topics which were discussed. The first concerned the part taken by leucocytes in the new formation of tissues; the second related to the disturbances of the myocardium; and the third embraced the subject of tuberculosis.

It was especially noteworthy to see the practical agreement of such distinguished investigators as Ziegler, Grawitz and Marchand, in denying any active participation of the leucocytes in the new formation of tissues, in consequence of existing pathological processes. Ziegler, in particular, who had been most diligent in claiming such active participation, gave up his position in the most positive manner. Virchow, who was present during a part of this discussion, would have been more than human had he not derived a certain satisfaction from seeing so complete a refutation of some of the theories which had arisen in opposition to some of the theses he had defended during a period of many years.

The question of a segmentary myocarditis, which has been lately brought forward, especially by Renaut, found its strongest opponent in Recklinghausen, who was enabled to show that the disassociation of the muscular fibre of the heart might occur during the death-agony in certain cases of death from violence, and that there was no proof of its occurrence before this period.

Our knowledge of the method of origin and extension of tuberculosis was ably presented by Ponfick, and there was a conspicuous harmony in the views on this subject which were presented by the various participants in the discussion. While there was nothing essentially new or novel in the consideration of the pathology or pathological anatomy of this subject, at the first general meeting of the Congress a most startling communication was made, one which, if it proves true and applicable to human beings, will be universally recognized as the most important contribution ever made to practical medicine, with the single exception, perhaps, of anaesthesia. Robert Koch announced in his paper

on "Bacteriological Research," that he had been able to prevent the death of guinea-pigs and rabbits after inoculating them with pure cultures of tubercle-bacilli, by appropriate treatment. He gave no detailed statement of the nature of his experiments or of the medicines employed, as his work was not entirely completed; but it is whispered that the drug he has found so efficient is a salt of cobalt. When it is considered that guinea-pigs are, perhaps, the most susceptible of all animals to the ravages of the bacillus tuberculosis, and that Koch is one of the most cautious of all investigators, one who may be said to have never made a mistake nor been obliged to retract a word of his statements, the significance of this preliminary communication may be appreciated. It is well known that he has for years been searching for the possibility of a cure for tuberculosis, and the statements he has just made are the outcome of these years of work. From any lesser light they would be incredible, even impossible; from him they are full of such promise as to be almost blinding.

I will say nothing of the other important papers presented at the general meeting of the Congress, where we were so ably represented by Wood, of Philadelphia; nor of the distinguished hospitality of the empire, the refined courtesy of the empress, the unbounded generosity of the city, and the warmth of the welcome extended to the coming guest, as well as the liberality which was given at the spending of those who were parting.

The one spirit which dominated the entire Congress, which ruled its greatest as well as its minutest affairs, was to be found in the man whom the nations of the world, through their medical representatives, assembled to honor and give homage to — Rudolf Virchow.

BERLIN, August 10, 1890.

MR. EDITOR: — The Tenth International Medical Congress has been a very successful and interesting one. The assemblage has included a great number of distinguished persons, and everything has been done which energy, forethought and unboundded hospitality could accomplish, to render the sojourn of the foreign guests both pleasant and profitable. It is interesting to note that some two hundred French delegates were present at the Congress, and that they were received with marked attention, both officially and privately. One of the most distinguished of the French delegates told me, on the last day of the Congress, that he and his countrymen were highly pleased with their reception and by the hospitality shown them, which had been far greater than they had expected, and that he thought that the incident would have a very salutary effect politically as well as professionally.

The whole number of members registered was over 5,700, besides 1,300 ladies, who belonged to the families of the members. Some 3,000 of the members were German, and about 700 were from the United States.

The meetings of the various Sections were held in the spacious halls of the Art Exhibition Building, which is situated in a park close to the Tiergarten, these being very convenient of access. It is needless to say that there were abundant opportunities for obtaining food and drink for those who were ever weary of purely scientific treats.

The only drawback to the perfection of the arrangements was the bad acoustic properties of the rooms, while the ease with which members could leave one Section to visit another was a disadvantage, inasmuch as an anxious and aimless thousand or so were always wandering about and disturbing those who were listening to the papers. As all of the latter were in a tongue foreign to many of the hearers, the best acoustics and closest attention were necessary for their full comprehension. The only other criticism that could be made, was that the members were worked too hard. Fifteen sessions of the Sections in six days, with three general sessions, were more than most men could endure; so that, finally, desertions became frequent. The weather, also, was hot and sultry on several of the days, much more so than is usually the case in Berlin.

Very complete arrangements were made for the recep-

tion and entertainment of the wives of the members of the Congress, so that they could visit the points of interest in and about Berlin while their husbands were attending to the meetings of the sections. To accomplish this a committee of the wives of the physicians of Berlin put their time and their homes at the disposition of the foreign ladies, so that, by excursions, receptions, and ladies' dinners, their guests were most hospitably and agreeably entertained. The city of Berlin also gave a great reception to the members of the Congress at City Hall, while the physicians of the city, on the last day of the congress, gave a festival and concert to the members and their wives at Krall's great garden. At both of these free refreshments were provided, including wine, on a most liberal scale. Five grand balls were also given simultaneously in as many different localities.

Besides all this, the most liberal hospitality was offered by the prominent physicians of Berlin connected with the different sections of the Congress, in the form of sumptuous dinners to prominent members of the profession from other cities. At these and at club dinners given by the Sections and by the special societies, and at the various entertainments already mentioned, the evenings were passed joyously, sometimes even hilariously, so that it was difficult to find all the participants at the opening of the Sections at 8 A. M., or at the operations performed in the hospitals promptly at 7, or even at 6.30 A. M.

Besides the Congress itself, with the work of its general sessions and various Sections, a very important adjunct was the Medical Scientific Exhibition, in which the professional and commercial interests were most happily and amicably combined. Instead of being regarded almost as intruders at a medical gathering, the manufacturers, chemists and publishers were welcomed as coadjutors and indispensable assistants of the profession. This exhibition was opened with great ceremony on the Saturday before the opening of the Congress. Professor Virchow in a happy speech pointed out the advantages which medicine derived from the kindred sciences here represented. Speeches were made by the representatives of the various countries who were present, and with cheers for the German Emperor and a crash of military music the exhibition was declared to be open.

Here were many interesting novelties which might well be found valuable at some of the exhibitions connected with medical meetings in our country. For instance, there were very elaborate series of pathological preparations, sent by the most eminent men and institutions in Germany, and representing various departments of medical knowledge. There were also collections of photographs and of wax figures illustrating various diseases, the collection representing maladies of the skin being especially noticeable. There were models of all parts of the human anatomy, and frozen sections preserved in alcohol, teaching admirably the anatomy of various pathological conditions and surgical operations. The frozen sections showing the pathology of the enlargement of the prostate, and the relations of the bladder and peritoneum in supra-pubic cystotomy, as well as the sections relating to obstetrical and gynaecological subjects, were of the greatest interest. There were complete models and drawings illustrating the methods of cremation. Models in wax showing all sorts of injuries received in murderous attacks were contributed by the medico-legal authorities. The dental exhibit even comprised very interesting specimens, showing the diseases of the teeth, and alveolar processes of elephants and other animals.

Together with the preparations mentioned above, there were complete exhibitions of instruments, goods, medicines, and chemicals, military and field hospitals and hospital appliances, all sorts of electrical and photographic apparatus, books, maps, etc.

A very interesting set of charts was exhibited by the Imperial Board of Health, showing the relative and absolute frequency of various diseases in different parts of Germany. One map also showed the number of doctors in comparison with the population in all parts of the empire. It may interest some readers to know that there are parts

of Eastern Prussia where there is only one physician to each 10,000 of the population.

It is quite impossible to enter into details in regard to the various exhibits. A catalogue of some three hundred pages served to explain them, and many of the members spent a great deal of time in the Medical Scientific Exhibition, which was honored by a prolonged visit of the Empress, and which is to be kept open for a week longer, on account of the great interest which it has excited.

In regard to the work of the Medical Congress itself, I will soon send you some very brief observations. It was opened with great pomp in the Circus Renz, which was packed almost to suffocation with a brilliant gathering of men eminent in the profession from all over the world. Behind the speaker's tribune rose a colossal figure of Easculapius, and opposite to it, on the other side of the great hall, was an enlarged copy of the Minerva Medica of the Capitol. Four hundred ladies graced the occasion with their presence, and in the imperial box sat the Bavarian

duchess whose husband is a physician and was a member of the Congress. The speeches of Virchow in German and Bacelli in Latin were the main events of the occasion. At the closing session in the same place the paper of Dr. Wood, of Philadelphia, on Anesthesia, excited great interest, not only on account of its scientific value, but also because it was so well delivered that it was easily understood by all who knew English even moderately well. (In general, other nations seem to find it much easier to understand the American than the English, a fact which is by no means strange.)

The next Congress is to be held in Rome in 1893, early in October. For this reason the speech of Bacelli excited great interest, and when, after a session lasting nearly six hours, Bacelli and Virchow, after exchanging felicitous compliments in elegant Latin, finally embraced and kissed each other, the Tenth International Medical Congress closed amid the greatest enthusiasm.

Respectfully, E. W. CUSHING, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 30, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	732	369	28.56	13.58	2.38	19.18	1.40
Chicago	1,100,000	512	277	33.63	5.89	1.90	23.75	4.75
Philadelphia	1,064,277	—	—	—	—	—	—	—
Brooklyn	852,467	381	193	27.56	8.84	4.16	18.46	.26
St. Louis	550,000	169	62	17.11	8.85	1.77	11.80	2.58
Baltimore	500,343	175	79	20.62	12.54	1.14	12.54	2.28
Boston	418,110	242	111	25.01	14.76	1.24	22.14	1.53
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	260,000	120	39	21.88	10.79	.83	11.62	.83
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	72	31	27.80	9.73	1.30	18.07	5.56
Nashville	68,513	38	14	34.19	7.89	2.63	23.67	5.26
Charleston	60,145	37	20	21.60	8.10	—	10.85	5.40
Portland	42,000	19	7	36.82	10.52	5.26	31.56	—
Worcester	81,622	34	24	58.80	2.94	—	47.44	2.94
Lowell	73,370	46	22	34.72	6.51	—	34.72	—
Cambridge	67,026	27	14	44.10	7.40	—	37.00	—
Fall River	64,692	49	24	42.80	9.00	—	57.50	—
Lynn	55,900	20	17	20.00	13.33	—	16.66	—
Springfield	41,520	21	10	28.56	1.76	—	28.56	—
Lawrence	41,088	16	5	18.75	25.00	—	18.75	—
New Bedford	38,213	25	16	40.00	8.00	4.00	36.00	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	7	4	57.12	14.28	—	42.84	—
Salem	29,242	20	13	40.00	5.00	—	35.00	—
Chelsea	28,781	12	11	—	16.66	—	—	—
Haverhill	27,124	7	4	42.84	—	—	28.56	—
Taunton	25,544	22	15	54.50	—	—	50.00	—
Gloucester	24,804	13	8	23.07	23.07	—	23.07	—
Newton	22,011	10	7	40.00	—	—	40.00	—
Malden	20,015	7	1	—	14.28	—	—	—
Waltham	17,988	10	6	50.00	20.00	—	50.00	—
Fitchburg	17,304	10	7	40.00	10.00	—	40.00	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	6	5	100.	—	—	26.66	—
Quincy	14,114	6	6	100.	—	—	100.	—
Newburyport	13,915	9	5	22.22	—	—	22.22	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 2,875; under five years of age 1,426: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 754, consumption 284, acute lung diseases 190, diarrhoeal diseases 514, typhoid fever 58, diphtheria and croup 58, whooping-cough 47, malarial fever 21, cerebro-spinal meningitis 16, scarlet fever 14, measles 12, puerperal fever 2, erysipelas 2.

From whooping-cough, New York 12, Chicago and Brooklyn 10 each, Baltimore 5, New Orleans 5, Worcester, Cambridge, Brockton, Salem, Haverhill and Taunton 1 each. From malarial fevers, New Orleans 9, New York 5, Brooklyn 3, Charleston 2, Nashville and Fall River 1 each. From cerebro-spinal meningitis, New York 5, Chicago, Brooklyn, Washington and Worcester 2 each, Baltimore, Lynn and Chelsea 1 each. From scarlet fever, New York 3, Chicago 4, Brooklyn 2, St. Louis and Boston 1 each. From measles, New York 9, Chicago, Brooklyn and

Baltimore 1 each. From puerperal fever, St. Louis and Cambridge 1 each. From erysipelas, New York and Baltimore 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending August 2d, the death-rate was 19.6. Deaths reported 3,649: acute diseases of the respiratory organs (London) 215, diarrhoea 343, measles 149, scarlet fever 77, whooping-cough 72, diphtheria 62, fever 35.

The death-rates ranged from 9.8 in Cardiff to 26.1 in Manchester, Birmingham 19.4, Bradford 17.8, Huddersfield 15.5, Hull 16.3, Leeds 16.2, Leicester 18.2, Liverpool 21.0, London 19.8, Newcastle-on-Tyne 23.5, Nottingham 13.6, Portsmouth 19.3, Sheffield 22.4, Sunderland 19.9.

In Edinburgh 15.4, Glasgow 22.0, Dublin 17.4.

The meteorological record for the week ending Aug. 16, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*		Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Hours & Min.	Amount in Inches.	
Saturday,																	
Aug. 16, 1890.	Daily Mean.	29.77	27.0	82.0	63.0	67	72	69.0	W.	S.E.	7	1	F.	F.	0.97		
Sunday..	10	29.84	64.0	73.0	60.0	61	75	68.0	N.E.	E.	6	6	O.	C.	0.90		
Monday..	11	28.84	61.0	67.0	61.0	79	89	84.0	N.E.	N.E.	6	6	O.	O.	0.90	T.	
Tuesday..	12	30.08	61.0	70.0	61.0	63	62	62.0	W.	N.W.	7	7	C.	C.	0.90	T.	
Wednesday..	13	30.10	66.0	70.0	61.0	74	69	67.0	W.	N.W.	8	9	C.	G.	0.90		
Thursday..	14	29.97	72.0	81.0	60.0	74	83	81.0	S.	N.	8	8	C.	C.	0.90	T.	
Friday..	15	30.09	73.0	81.0	61.0	74	83	81.0	S.W.	S.W.	3	3	O.	O.	0.90		
Saturday..	16	30.23	65.0	75.0	56.0	45	58	51.0			4	3	O.	O.			
Mean for Week.																	

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 16, 1890, TO AUGUST 22, 1890.

BRETIREMENT.

JOHN MOORE, Brigadier General, Surgeon General, August 16, 1890. (Act June 30, 1882.) Headquarters of the Army, A. G. O., Washington, August 18, 1890.

PROMOTIONS.

WILLIAM P. KENDALL, First Lieutenant and assistant surgeon U. S. Army, to be assistant surgeon with rank of captain, after five years' service, from August 12, 1890. Headquarters of the Army, A. G. O., Washington, August 18, 1890.

FRANCIS J. IVES, assistant surgeon, July 25, 1890. To be assistant surgeon with the rank of captain, after five years' service, in accordance with the Act of June 23, 1874. Headquarters of the Army, A. G. O., Washington, August 11, 1890.

With the approval of the Acting Secretary of War, leave of absence for four months, to take effect about September 1, 1890, is granted Captain WALTER REED, assistant surgeon, S. O. 192, Par. 17, A. G. O., Washington, D. C., August 18, 1890.

By direction of the Acting Secretary of War, a board of medical officers to consist of Major JOSEPH V. D. MIDDLETON, surgeon; Major CLARENCE EWEN, surgeon; Captain WILLIAM E. HOPKINS, assistant surgeon, will assemble at the U. S. Military Academy, West Point, New York, at 11 o'clock, A. M., August 27, 1890, or as soon thereafter as practicable, to examine into the physical qualifications of the candidates for admission to the academy. S. O. 192, Par. 1, Washington, D. C., A. G. O., August 18, 1890.

By direction of the Acting Secretary of War, First Lieutenant F. MASON, assistant surgeon, is relieved from further temporary duty at Fort Logan, Colorado, and will report for duty at his present station (Fort Washakie, Wyoming). S. O. 191, Par. 3, A. G. O., Washington, D. C., August 16, 1890.

By direction of the Acting Secretary of War, the replacement from active service this date by operation of law of Brigadier General JOHN MOORE, Surgeon General, U. S. Army, under the provisions of the Act of Congress approved June 30, 1882, is announced. General Moore will repair to his home, Bloomington, Indiana. S. O. 191, Par. 2, A. G. O., Washington, D. C., August 16, 1890.

The leave of absence for seven days granted Captain GEORGE MCCREARY, assistant surgeon, by orders No. 84, Fort Warren, Mass., August 13, 1890, is hereby extended fifteen days. S. O. 193, Headquarters, Division of the Atlantic, Governor's Island, New York City, August 15, 1890.

SOCIETY NOTICES.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS will hold its next annual meeting in the City of Philadelphia, Tuesday, Wednesday and Thursday, September 16, 17 and 18, 1890, in the hall of the College of Physicians, corner Thirteenth and Locust Streets. All physicians interested are invited to attend the several sessions.

WM. WARREN POTTER, *Secretary.*

E. E. MONTGOMERY, *President.*

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its Sixteenth Annual Session at Louisville, Ky., October 8th, 9th, 10th, 1890. An unusually interesting meeting is expected. An address is to be delivered by Dr. John A. Wyeth of New

York, and a paper to be read by Dr. Frank Woodbury of Philadelphia.

TRI-STATE MEDICAL ASSOCIATION OF ALABAMA, GEORGIA AND TENNESSEE. The next meeting will be held in Chattanooga, Tuesday, October 14, 1890, and will continue in session two or three days.

At our first meeting sections of the various departments of the medical sciences were created, with the following chairmen: Surgery, G. A. Baxter, Chattanooga; Gynecology, R. J. Tripp, Chattanooga; Obstetrics, W. T. Blackford, Grayson, Ga.; State Medicine, F. D. Sims, Chattanooga; Physiology, W. L. Gabahan, Chattanooga; Otology, R. D. Boyd, Chattanooga; Ophthalmology, N. C. Steele, Chattanooga; Laryngology, Max Thorner, Cincinnati, O.; Psychical Research, J. E. Furden, Cullman, Ala.; Pathology and Practical Microscopy, James E. Reeves, Chattanooga; Meteorology, E. T. Camp, Gadsden, Ala.; Practice, G. W. Drake, Chattanooga; *Materia Medica and New Remedies*, W. H. Jackson, Birmingham, Ala.

Members of the Association are requested to report cases or other matters of interest to the chairmen of the various sections, who will report them at the next meeting. The membership is not restricted to the three States, and all who can should join us in the furtherance of the above objects. By furnishing proper credentials and remitting one dollar to the Secretary any physician may be enrolled as a member of this Association.

OBITUARY. THOMAS T. GRIGGS, M.D., M.M.S.B.

Dr. Thomas T. Griggs, a respected and prominent citizen of Grafton, Mass., died August 12th, after an illness of about one year, of dysentery. He had been a resident of the town over fifty years, and for forty-one years practised as a physician, and was in the seventy-third year of his age. In his early days he attended the public schools of Sutton, and was employed as a clerk in a store. He went to reside in Grafton in March, 1839, where he graduated in medicine at the New England Medical College, Boston, and was granted a degree, M.D., July 18, 1849, from the Harvard Medical School. He at once began the practice of his profession with the late Dr. Pierce, and finally succeeded to his practice. He was a member of the Massachusetts Medical Society, and had served several years on the Board of Selectmen of Grafton, and was the senior Vice-President of the Grafton Savings Bank. In 1875 he was elected by the Republicans as Representative to the Legislature, serving as one of the Committee on Towns.

OBITUARY. JOHN ADAMS ALLEN, M.D.

Dr. John Adams Allen, of Chicago, dean of Rush Medical College, and for twenty-five years chief surgeon for the Chicago, Burlington and Quincy Railroad System, died August 15th after a lingering illness. He was born at Middlebury, Vt., on January 16, 1825. He graduated in medicine at Middlebury College in 1846. In 1859 removed to Chicago. Dr. Allen had travelled extensively. His journals, written during his travels in Europe and Africa, have had a large sale.

BOOKS AND PAMPHLETS RECEIVED.

De L'Anesthésie Locale Par Injection de Cocaine et Du Bon Effect De La Bande D'Esmarch. Par le Dr. E. Knauer, Chirurgien à l'Hôpital Butini, Privat-docent de chirurgie à l'Université de Genève. Genève: 1889.

Original Articles.

ERICHSEN'S DISEASE AS A FORM OF THE TRAUMATIC NEUROSES.¹

BY S. V. CLEVENGER, M.D., CHICAGO.

"WHAT'S in a name?" asks Shakespeare. Names, instead of being distinctive, are too often sources of confusion, as botanists, zoologists and anatomists are aware. Plants in the system of Linnaeus were specifically named "montana," when they were not exclusively mountainous; animals called "fluvitiale" were later found often in lakes; the "pituitary gland" is neither pituitary, nor a gland; the arteries were named as air receptacles; and so we might multiply misnomers indefinitely because of the attempts of our ancestors to make names superficially descriptive.

About twenty-five years ago Erichsen described a variety of derangements following upon concussion of the spine. Now nothing could be simpler, apparently, than the expression "spinal concussion," and nearly every one fancies that no misunderstanding could arise in the use of such a term. Nevertheless, that very title has in itself occasioned great misunderstanding, because it had a restricted as well as a general meaning.

The cause of this confusion dates from Erichsen's description of the different kinds of ailments that may arise from blows to the back, such as severe direct injury to the spine, causing demonstrable cord lesions, slight indirect or remotely occasioned back injuries, sprains, strains, wrenches and twists of the spine, wherein occurred cord compression by extravasation or inflammatory exudations, nutritive cord alterations, and a "functional disorder" caused by a spinal concussion. In the interests of scientific medicine I named that so-called functional disorder "Erichsen's disease," because John Eric Erichsen was the first to describe this particular group of symptoms that often followed upon concussions.

That distinguished London surgeon wrote to me as follows:

"I assure you that I feel much gratified and very highly flattered by having my name appended by you to the group of symptoms so very characteristic and remarkable, when taken in the concrete, which I believe that I was the first to describe, which result from that peculiar form of spinal injury now recognized under the term 'spinal concussion.'"

Had Erichsen given any sort of a name to this disorder, however arbitrary that name might have been, there would have been less occasion for the wrangling that has occurred in court-rooms all these years.

Instead of entangling ourselves in the endeavor to explain that spinal-concussion symptoms may sometimes be induced by a spinal concussion, misunderstanding is impossible when we state that a concussion of the spine may originate a vast range of troubles, such as dislocation of the vertebrae, cord injuries, etc., and it may also cause Erichsen's disease.

What, then, is Erichsen's disease?

It is a serious disturbance of the functions of the spinal cord, without there being demonstrable cord lesions. Such disturbance can be best accounted for by supposing that the spinal sympathetic system has been deranged, secondarily interfering with the blood-

supply of the cord and its membranes, conjoined with other vaso-motor phenomena, such as emotionalism, flushings, cardiac rapidity, hyperhidrosis, sleeplessness, headaches; directly due to the original sympathetic system derangement.

The fact that the group of subjective symptoms and objective signs are distinct from other disorders, sufficiently set it apart from other ailments or "traumatic neuroses," and justify its special title. The claim is sometimes made that naming diseases after individuals is unscientific, and burdens our nomenclature unjustifiably. This is true only in a certain sense, and it is easy enough to formulate a law when such christening would be proper.

The golden mean can be observed in this as in other respects, and the matter is one of such great importance that I do not hesitate to take up time in its elucidation. No trivial reason should justify such naming, but when there is an eminently proper cause for so doing, such as in this instance, the medical world profits by having the discoverer's name forever associated with the disorder.

If a disease can be accurately named descriptively, then the descriptive name should be preferred; but the risk is run that, with the advance of knowledge, the name ceases to be descriptive, and too often absolutely erroneous and misleading. At one time the scutum was dubbed sacred, as the seat of the soul, because supposed to be imperishable. A formidable disease became universally prevalent after the return of Columbus from America, and we were threatened with its perpetuation as the "American disease," just as, at one time, its companion was known as *Französische Krankheit*; but as attention was called to the fact that the greatest pretenders to piety were the most numerous sufferers, a diversion was made in favor of the title "holy sickness." The etymology of the word syphilis is obscure; and hence the name is arbitrary, and becomes as much of a *nomen proprium* as had it been called "Smith's disease" or "Jones's disease." Gonorrhœa is a misnomer, because it means a flow of sperm.

Huxley opposes descriptive names, in the main, in zoölogy, and holds that we should forget the etymology of any animal name, and use it merely as a title, without regard to its origin.

Descriptive naming is carried to extremes by savages, in such appellations as "Sitting Bull," "Red Jacket," "Man-afraid-of-his-Horses"; and the tough element in our cities describe one another as "Shorty," "The Bruiser," etc. I merely mention this as an offset to the radical claim that diseases should in no case be named after those who first described them. Purely arbitrary names, that convey no descriptive meaning, often have decided advantages, the foremost advantage being that an arbitrary name, such as "Bright's disease," "Addison's disease," "Graves's disease," cannot possibly mislead. You receive the history of the disorder in the name, and are compelled to learn what it was that Bright, Addison and Grave discovered.

I was disposed to the belief that this sort of thing could be overdone, through naming of such complaints as "Thomson's disease," disorders such as the "Cheyne's-Stokes' breathing," "Argyll-Robertson pupil," but as the law of survival of the fittest would overtake inappropriateness in this regard, I now incline to thus honor discoverers; and we all realize

¹ Read before the Jurisprudence Section of the American Medical Association, Nashville, Tenn., May 22, 1890.

that little enough honor is earned by any delver in our profession, however conscientious and gifted.

Let me tell you of an instance where immense advantage would have been gained by avoidance of attempts to describe a disease in a name. The terrible form of insanity now called "paretic dementia" by alienists, was first described by Bayle in 1822-26. Later, Calmeil missed the opportunity of his life, because, while he clearly recognized the differences it presented from other forms of insanity, he did not attach his predecessor's name to the malady, as he should have done. So doing, would have saved thousands of insane from the gallows, the guillotine, and the prison. Could we have had "Bayle's disease," instead of the present abominable array of misnomers, every physician would have known something about it, and recognized it as an entity, instead of to-day having to learn that there is a disorder that suddenly attacks some overwrought business men — often the rich than the poor, the ambitious rather than the drone, the intellectual rather than the thoughtless; the trouble that killed Sir Walter Scott and other historical personages — a trouble whose pathology has been worked out even better than has been that of pneumonia; a mental ailment that presents distressing problems, mainly because so few know what is absolutely known concerning it. It is too late to call it "Bayle's disease." It is with the utmost difficulty that the recent designation "petic dementia" is favored. I speak to you of the affection that has been called in our books "general paralysis of the insane," "progressive general paralysis," "general paroxysm," "general paresis," "paralytic dementia," "progressive paresis," or "dementia paralytica," and their equivalents in French and German. Not one of these descriptive names really described the disorder; and excellently-educated physicians, not versed in this particular matter, have been led into deriding the very existence of the complaint, through taking the name as descriptive. Fordyce Barker, of New York, who was a specialist in everything, aroused the applause of the court-room mob in the Guiteau trial by swearing that there was no such thing as "general paralysis," except in death. Yet doubtless not one in that court-room but would have thought he understood precisely what was meant had the atrociously lying name, "softening of the brain," been used instead.

A volume could be written upon the accursed influence of that word-grouping, "softening of the brain." It has been used in a metaphorical sense for a century — in the ignorant mind, satisfactorily descriptive of what to the pathologist is complex, and oftener involves sclerosis, atrophy, or putting it popularly, "hardening of the brain."

While pathologist of the Chicago County Asylum, the certificates I filed from the thousand city practitioners included in "softening of the brain," at least, fifty dissimilar insanities, such as melancholia, paranoia, atherosomatous insanity, hebephrenia, mania, kata-tonia, circular insanity, confusional, stuporous insanity, and even terminal dementia. Every insanity almost was "softening of the brain."

Every physician in the world should remember that from the standpoint of the alienist there is no such disease as "softening of the brain." The pathologist can tell you of various kinds of brain softening: red, yellow and white, that are merely degenerative processes, more often associated with paralytic than men-

tal phenomena, subsequent to extravasation, embolisms, thrombosis. Whosoever speaks of "softening of the brain" as a mental derangement, either caters to ignorance, or is himself ignorant of alienistic science.

Turning again to scientific nomenclature, we find precision in electrical science in the meaning of naming of measurements — farads, watts, ampères, ohms; and in currents — the faradic, galvanic, and franklinic after Faraday, Watts, Ampère, Ohm, and Franklin. Very true, the names themselves convey no meaning to the un instructed in electrical science, just as the term "Erichsen's disease" would compel some attention as to what was meant, though every ass would suppose he knew what was included in "concession of the spine" and "softening of the brain."

Oppenheim, of the Berlin University, carefully studied the effects of concussion accidents, and, incidentally, some nerve injuries, and included all under the title "traumatic neuroses"; and forthwith, that name has been adopted by several writers in lieu of "spinal concussion." The impropriety of this is evident when we reflect that, while Erichsen's disease may be a traumatic neurosis, sciatica, paralysis agitans, chorea, myelitis, epilepsy, and myriad diseases, may also be traumatic neuroses; so that term is too generic; and the fact that Erichsen's disease is of medicolegal importance does not warrant so sweeping a designation for it in which can be included thousands of other ailments.

S. Weir Mitchell, during the late war, made extensive researches with regard to direct injuries to nerves; and the traumatic neuroses described in his book differs widely from those investigated by Oppenheim.

Sterling and Krontal, in the *Neurologisches Centralblatt*, June 1-15, 1889, report a case that died from cardiac and pulmonary disease. The autopsy revealed arterial sclerosis to a marked degree, with occasional hyaline and fatty degenerative spots in the entire arterial system, particularly in the cerebro-spi-nal vessels. The trunk of the sympathetic was peculiarly degenerated. There were scattered degenerative spots in the white part of the cord, and in the gray of the lower dorsal region, and a small hemorrhage in the mid-dorsal region. This sympathetic and arterial degeneration lends great plausibility to the theory I advanced, that the spinal-sympathetic was the main seat of the disorder.

Meynert, in the *Wiener Klin. Woch.*, 24, 26, 1889, locates the seat of the "traumatic neuroses" in the forebrain. Now, no one can have a greater regard for the opinion of this famous cerebrologist; but occasionally, Meynert can be as wrong as Charcot or Pasteur. Much of this fallibility comes from the impossibility of a single mind, however trained, grasping all aspects of the limitless field of human knowledge. In these days it is the ignorant alone who claim to be thoroughly instructed in all departments of medicine and surgery.

The depths of our attainments are inversely as their breadth; and the specialist is narrow whose career was not begun as a general practitioner. To be a pathologist and nothing else, a neurologist and nothing else, may confer ability in some few particulars; but breadth of thought can only be brought to bear upon a special line through previous cultivation in many fields.

Meynert has studied the minute anatomy of the brain, but he has not studied spinal concussion in all

its aspects; and his immense knowledge of the cerebrum is misapplied in endeavoring to locate the vast range of general vaso-motor phenomena in a single lesion of a restricted part of the brain.

DISCUSSION.

DR. HERBERT JUDD, of Galesburg, Ill., began the discussion in a paper entitled "Legal Aspects of Spinal Concussion":

In connection with the discussion of the legal aspects of spinal concussion, I beg to say that, during the past twenty years, I have known of twenty-six cases, all in the State of Illinois, of so-called concussion of the spine that have been brought to my notice, and which I have watched with some interest while the cases were under consideration by attorneys for corporations against which claims for damages had been preferred. I have known of many other cases of this disorder in which there existed grave doubts of the patient having sustained any injury, but the twenty-six cases referred to can be verified by the files of papers in the office of the attorney of the Chicago, Burlington & Quincy Railroad Company at Galesburg, Ill., and the affidavits and evidence there preserved. When the liability of the railroad company for whatever damages the claimant had sustained was conceded, there were but few of the cases litigated, but were settled prior to suit in some cases and prior to trial in others. In all the cases I specially allude to, the genuineness of the claim, that of permanent injury from shock or concussion of the spinal cord, was denied by the railroad attorney, upon the candid opinions of surgeons and physicians obtained by the company. In every case, however, the railroad attorney negotiated the best settlement possible, and usually regarded it as good policy to pay liberal sums rather than submit to a trial, when courts could not give protection against perjured, prejudiced, and ignorant testimony.

Some of the cases had "litigation symptoms" for a long time prior to settlement. Several of them were so serious as to render the patient bedridden and helpless, but in all of them thorough and complete recovery resulted. In most of them recovery was rapid and rather astounding, and it was noted that improvement followed swiftly after the "damages" were paid.

Understand, that in all these cases the only question in controversy was that of actual injury. They were cases in which the symptoms were subjective, and the condition of the patient could be determined alone upon his statement, to which too much credence is often given by physicians. These were cases where it was deemed the best financial policy to submit to blackmail to avoid legalized robbery, the amount of which depended upon the sympathies of a jury with a claimant, and their unreasonable prejudices against corporations, all of which they assume to believe are immensely wealthy, and able to stand the assessment. I know of no case of actual, patent injury caused under such circumstances as to create a legal liability, where there was any serious trouble in arriving at a fair and just sum to be paid as damages, satisfactory to both parties; nor do I ever expect to see a case of actual, permanent injury in court and on trial where the question of liability has been conceded. All such honest, just claims can be and ordinarily are settled out of court. I have little faith in book cases of spinal concussion.

These special cases I have referred to had their origin in the hints, suggestions, and help of Erichsen. The study of Erichsen began with date of accident to train, — the patients were crammed with directions for fraud. The cases I have in mind were carefully watched and traced up after settlements were made. This was done as a source of information, and to verify, if possible, the views of fraud entertained; and, as I have already stated, every one of them recovered, and in several of them the fraud became so apparent as to cause some notoriety to the patient, and some unenviable notoriety to the advising physician, especially in a few cases of complete recovery after a long and no doubt laborious siege of "total disability."

I believe there is a maxim of the criminal law, that every person is to be regarded as innocent of crime till proved to be guilty. It seems about time that surgery should have and act upon this maxim, that every person claiming disability from concussion of the spinal cord, where no objective symptoms are to be discovered, is to be considered as planning for your aid in enabling him to rob some employer, until you can, by your own knowledge of the case, discover that injury actually exists.

If physicians would or could consider and treat all cases of alleged spinal concussion without regard to or any consideration of the desires of the patient to reap a money compensation, there would be less difficulty in effecting cures. If the physician would confine his services strictly to his own duty to effect a cure, and refuse to consider or meddle with the financial or pecuniary plans of his patient, he would attain much more brilliant success in his treatment. If he in good faith endeavors to effect a cure and not to establish a case of permanent injury for the pecuniary benefit of the patient, or to gratify his avarice, he would find few cases of the disease under consideration.

How many cases of concussion of the spinal cord can any of you recall in your own practice, where the patient fell from a load of hay, or was thrown from his own wagon, or fell from a barn-loft, or received injuries or met with an accident for which no one but himself or his own family was blamable? If you would consider these cases as you consider and treat spasms in children during the first and second dentition, or fits resulting from worms, you might be led to better means of improving the physical condition of the patient. If you refuse to minister for the benefit of the patient's estate, and apply your skill to his person, you might acquire more success. If you exert your proper influence to keep your patient out of the hands of the "calamity lawyer," and to shut out from his mind all present consideration of the possible pecuniary gain, you would have taken a giant step toward his cure. Is it not our duty as physicians to benefit the physical man, even at the expense of property? Is not health worth more than riches, even honestly gained?

I have said this much with the sincere desire for the best good of the profession. Facts are "brutal things to deal with."

DR. CLARKE GAPEN, of Omaha, Neb., agreed with Dr. Clevenger, that the disease described by Erichsen under the name "spinal concussion" should be renamed "Erichsen's disease," not only to fix it more accurately, but because a large amount of obloquy attends the subject which Erichsen ought to bear. This book is said to have cost English railways fifty million dollars,

and American railways as much more. Dr. Gopen had taken Erichsen's cases and classified the symptoms under objective and subjective heads, and was amazed to find how few were the objective. His experience in the main had agreed with that of Dr. Judd, in that most of the cases were either hysterical or malingerer. Moreover, many of the symptoms, as flushings, increased temperature, emotionalism, were in fact cerebral symptoms rather than spinal. There were no vaso-motor centres in the spinal cord. Page has shown how very difficult it is to injure the cord, owing to its looseness in the bony canal and the fact that it is surrounded by fluid. Actual injury is very rare, and usually well-marked from the outset.

DR. H. N. MOYER, of Chicago, stated that he was astonished at Dr. Judd's statement that concussion cases did not occur unassociated with damage suits. Dr. Judd's experience must be limited, indeed, to allow him to make a remark of that kind; for in the past five years Dr. Moyer had seen a large number of concussion cases in which there was no suspicion of a damage suit; and these did not differ at all in course, symptoms, duration or termination from those that had been the subject of legal contention. Dr. Moyer heartily agreed with Dr. Clevenger in suggesting the propriety of the term "Erichsen's disease." While it is not all that one could desire, yet it is such an improvement upon "spinal concussion" that it should be adopted, at least until the pathology and the morbid anatomy of the condition shall be better understood.

DR. O. EVERETT, of Cincinnati, said: I approve the suggestions of the paper, and think that the adoption of the term "Erichsen's disease" would be proper and useful. If a definite term is used by a medical man, such as "Bright's disease" or "Basset's disease," or for surgical operations such as "Battley's," it is usually or presumably because he has definite ideas respecting conditions thus named after original investigators, while general terms, such as "spinal concussion," "kidney disease," etc., do not convey such definite ideas, or other than vague notions of some disorder. It is convenient, however, for practitioners who are not scientific, to have these general terms for use in emergencies. They sound well, and if delivered with proper expression, go a great way in confirmation of one's reputation for wisdom. For example, the term "softening of the brain." If one meets with serious cerebral symptoms, all that is necessary to say with becoming gravity and a significant look, "Softening"; and the whole business is settled. "Congestion" used to be the favorite term by which to account for failure in treatment of various forms of disease terminated often unexpectedly by death. All the baffled practitioner had to do was to shake his head and say, "Congestion." Such terms are convenient for the concealment of ignorance. The name of Erichsen is worthy of commemoration, and may well be associated with a form of disease which he has so well described.

DR. J. G. KIERNAN, of Chicago, stated that he had the clinical experience of Dr. Moyer. That railroads were not always of the type described by Dr. Judd was shown by the Chicago railroad "jury fixing" cases. That spinal concussion existed, the case reported by Dr. McIlvaine of Peoria would alone demonstrate. A female victim of a railroad accident had been suspected by Dr. McIlvaine of being a malingeringer. She had secured damages, but the spinal disease had gradu-

ally progressed into helplessness and death. Dr. Kiernan had himself seen similar cases.

DR. G. FRANK LYDSTON said: I consider the work which Dr. Clevenger has been doing upon the subject of "spinal concussion" a most important advance in medicine. His adoption of the term "Erichsen's disease," while open to some objections, is, on the whole, a wise and useful plan. The laity have already learned that "spinal concussion" is an omnibus which may be made to cover much malingering. By the adoption of "Erichsen's disease" we will at least compel the humbug to learn his lesson over again. The term will certainly convey to the malingerer the idea of a distinct and definite affection, which he must substantiate by plain and positive proofs. I am aware that it is not easy to evolve order out of the chaos of symptoms which characterize the results of concussion of the spine, but as far as may be, I believe that Clevenger has accomplished it. His explanation of the pathology of the varying phenomena is thus far the only rational and intelligible one in medical literature. I regret that he has not said more of his theory to-day. Personally, I would advise those who are not familiar with his views to read his book. If others derive the same benefit from its perusal that I have done, they will feel amply repaid.

In closing the discussion DR. CLEVENGER stated that he had been astonished at the improvement of some patients after the settlement of damage claims, but this seemed to be due to the relief from worry which the conclusion of the suit afforded; but it would be presumption to affirm that such cases were entirely cured until years had elapsed and unprejudiced opinion had been engaged. This "quick cure by settlement" savored too much of the unscientific assertions of Herbert Page, who was the most ordinary special pleader for railways, while both Dr. Gopen and Dr. Judd had been opposed to Dr. Clevenger in recent suits against corporations, and seemed to look at the matter from one standpoint, the latter had frequently been called as an expert for either side, and sometimes for both sides at the same time.

The statement that there were no vaso-motor centres in the spinal cord, and hence the symptoms were cerebral, was rather surprising when the sympathetic system is so intimately united to the spinal all the way down the cord length; and such ordinary matters as constipation and hemorrhoids producing brain troubles show that such a vaso-motor difficulty as emotionalism need not have its origin, necessarily, in the head.

The intimation that subjective symptoms were always false when made the bases of claims against railways, is on its face absurd. Physicians have to judge from their consistency, whether they are real or not. Contrary to Dr. Gopen's findings, Dr. Clevenger had devoted all his spare time for three months in analyzing Erichsen's cases, and found an abundance of objective signs in all. But it depends upon what is meant by "objective." To the uneducated the galvanometer and electrical indications convey no meaning. Paralysis and insanity of the gravest kinds would present nothing "objective" to the biased witness.

There are cases in which no honest opinion can be reached, and in such it is best to allow the mind to remain a "scientific blank," as Huxley advises. Only the untrained imagine they must have a positive opin-

ion upon everything under the sun. Sometimes a little waiting will determine matters. A case examined a year ago presented nothing but purely subjective symptoms, and to-day there is atrophy of an arm. In another instance, a laborer fell partly into a coal hole, with one leg in and the other out, and after a year is unable to do any work, but there was such an utter absence of anything in the way of electrical or other findings, and so many of the ordinary symptoms of Erichsen's disease were missing, that Dr. Clevenger told the lawyers that everything depended upon the credibility of the patient, and he preferred having nothing to do with the case as it stood at present.

We find instances, in and out of the books, of fatal issues among patients accused of malingering. We occasionally find a conscientious railway surgeon who acknowledges that railway accidents do not always improve health, and that a few dollars' settlement will not resurrect the dead.

A CASE OF GASTROSTOMY.

BY GEORGE W. GAY, M.D.,
Visiting Surgeon to the Boston City Hospital.

EARLY in the summer of 1889, Mr. W., a large-framed, powerfully built man, about fifty years of age, came to my office, complaining of inability to swallow anything but liquids. This difficulty had been gradually increasing for about a year. He had lost much flesh and strength, and was slowly starving to death. Hungry all the time; felt that he could eat anything, and in large quantities if he dared to do so. He was obliged to confine himself to liquids, and could take those only in small sips, otherwise they were immediately regurgitated. The first mouthful, as he said, was all right, but after that "everything comes up." There was no sharp pain, merely a sense of pressure. Had lost thirty pounds in weight during his illness, and was in a pitiable condition.

On exploration with the esophageal bougie, only the next to the smallest size could be passed through the stricture, which was located behind the sternal notch. Glands in the neck were somewhat enlarged. Nutritive enemas of milk and beef juice were ordered every six hours. These afforded only partial relief, and the man begged to have something radical done. He was anxious to take any risk for relief, and under the circumstances I finally consented to accede to his urgent solicitations to open the stomach, in other words, to do gastrostomy.

The operation was done at the City Hospital, under ether, on July 21, 1889. An incision four inches long was made, an inch and a half below the border of the ribs on the left side, commencing about two inches to the left of the ensiform cartilage. On dividing the peritoneum to the extent of an inch and a half, the stomach was found collapsed about five inches from the anterior abdominal parieties. It was drawn into the wound, and placed under easy control by means of two wire loops about three-fourths of an inch apart, passing through the outer coats of the stomach. The organ was then secured to the edges of the wound by means of silk sutures, the peritoneal surfaces being carefully apposed all around the abdominal incision. Finally, with a tenotomy knife an incision, or rather, a puncture, was made into the stomach not over a quarter of an inch in size; just large enough, in fact, to

admit the point of a small glass tube, which served as the nozzle to the syringe or feeding apparatus. Eight ounces of warm peptonized milk were slowly injected into the stomach, and the small opening securely closed by simply twisting the wire loops very loosely. The dressing consisted of iodoform gauze and swathes.

The patient rallied well from the anesthetic. He was fed every five hours in the following manner: Half a pint of warm peptonized milk, with or without bovine, was slowly poured into a small glass funnel, to which was attached a rubber tube about two feet in length, this being about the fall required for the liquid to flow easily into the stomach. The patient declared positively and repeatedly that he felt much less hungry, and less prostration and restlessness after the artificial feeding was commenced. He even felt so well that he got out of bed, although warned against doing so. He lay in bed, received his food regularly, and was comparatively comfortable, requiring no morphia till eight days after the operation, when he was seized with severe pain in the epigastrium, due probably to separation of adhesions about the wound. The distress was readily controlled with morphia, given under the skin. Two days later he had a sudden and severe attack of dyspnoea, amounting, in fact, to orthopnoea. It did not persist, and gave little trouble afterwards.

Fifteen days after the operation some difficulty was met with in trying to introduce the tube into the fistula, and the liquid caused pain, indicating that, in all probability, it did not enter the stomach directly, if at all, but rather some adventitious cavity outside that viscous, a fact proved by the autopsy. Rectal feeding was substituted for three days, when the method by the artificial operating was again resumed. At this time the stomach began to get irritable, and the food was rejected soon after being introduced. The strength began to give way; a moderate febrile condition developed; consciousness was retained to the last; food was rejected both from the stomach and from the rectum. He died from exhaustion twenty-six days after the operation.

The post mortem diagnosis was as follows: chronic pulmonary tuberculosis; cancer of the esophagus; acute diffuse peritonitis; senile atrophy of the kidneys; chronic pleurisy; cloudy swelling of kidneys and liver.

Three small, ragged tuberculous cavities were found at the apex of the right lung. It should have been stated above that a troublesome cough developed during the last few weeks of the patient's life. It was never severe enough to call for special treatment. At the autopsy it was found that the external wound communicated with the stomach, and also that a cavity had formed between the stomach and spleen and surrounding tissues. A certain amount of the food had evidently entered this cavity, thereby causing the pain. About half a pint of whitish opaque fluid was found in the peritoneal cavity. The peritoneum in the region of the liver was lined with an opaque white membrane. The surface of the stomach was of a diffuse red color, on the posterior and lower portion, the rest of the walls being dark green from post mortem changes. Glands somewhat enlarged.

The whole circumference of the esophagus for two inches above the sternal notch was the seat of a rough, elevated, nodular growth, having an irregular outline, and being fully an inch thick in one place. It was more especially developed on the posterior surface

of the canal. The microscope showed the growth to be composed of "reticulated connective tissue, with epithelial cells in spaces."

Did this man get sufficient relief to encourage us in repeating the operation under similar circumstances? I have no hesitation in saying that he did. It is fair to conclude that he lived as long and had less suffering by reason of the operation. The only alternative was hypodermic morphia, a rather poor substitute for food. The breaking down of adhesions between the stomach and parietes was probably unavoidable, on account of the great antero-posterior diameter of the abdominal cavity. If a patient with nearly complete occlusion of the oesophagus is so weak that he evidently has but a short time to live, it is doubtful if much benefit is to be derived from this operation. But, under opposite circumstances, if the person is able to be up and about, and has prospect of some weeks or months of life, a very considerable relief to the gnawings of hunger, and its attendant restlessness, may be confidently expected from the procedure. Under these circumstances the operation is to be recommended, provided rectal feeding fails to accomplish the object.

HEART-FAILURE.¹

BY E. N. WHITTIER, M.D.,

Visiting Physician, Massachusetts General Hospital.

THE opinion, which prevails among the laity as well as in the profession, that during the winter of 1889-90, there has been a large increase in the number of deaths from "heart-failure," is certainly well grounded, for at no previous corresponding period in the experience of this generation have so many instances been observed and recorded, of inability on the part of the heart to perform its functions.

Deaths in Boston from Heart Failure and its Complications, for a Period of Twelve Months ending December 31, 1888.

	Heart Failure.	With Complications.	Total.
January	2	3	5
February . . . . .	..	..	..
March	1	..	1
April	1	..	1
May . . . . .	..	2	2
June	1	..	1
July	1	..	1
August . . . . .	..	2	2
September . . . . .	..	1	1
October	1	1	2
November	5	3	8
December . . . . .	..	6	6

Deaths from Heart Failure and its Complications, for a Period of Fifteen Months ending March 31, 1890.

	Heart Failure.	With Complications.	Total.
January, 1889	6	1	7
February, "	2	1	3
March, " . . . . .	..	3	3
April, "	5	3	8
May, " . . . . .	..	2	2
June, " . . . . .	..	4	4
July, "	3	2	5
August, "	4	3	7
September, "	6	..	6
October, "	6	8	14
November, "	5	10	15
December, "	8	4	12
January, 1890	10	21	34
February, "	5	12	17
March, "	5	7	12

¹ Read before the Suffolk District Medical Society, April 26, 1890.

Deaths from Heart Failure, Primary or Secondary, during the Winter Months.

	-1888-89.-		-1889-90.-	
	Heart Failure.	With Complications.	Heart Failure.	With Complications.
November	5	3	5	10
December . . . . .	..	6	8	4
January	6	1	10	24
February	2	1	5	12
	—	—	—	—
13	11	28	50	50
Total, 24.			Total, 78.	

[From the statistics of the Boston Board of Health, courtesy of Dr. Durgin, chairman.]

I offer this paper in examination of the contributing as well as of the underlying causes inducing the opinion thus formed.

The factors which combine and find expression in the opinion so widespread and so prevailing are

(1) An epidemic of large proportions, having special influence in the direction of cardiac exhaustion: primarily because the disease itself is essentially a disorder of the nervous apparatus, in which cardiac and thermo-toxic centres are extensively involved; secondarily, in that it has as a predominating complication, broncho-pneumonia.

(2) A season of the year in which pneumonia, as primary diseases, have always occupied prominent positions in the mortuary statistics, and all recognize the immediate and positive relation of acute pulmonary inflammation to cardiac failure.

(3) A higher and constantly increasing knowledge of the important position occupied by the myocardial disorders in the pathology of heart disease, and their high rank among the diseases which contribute to the death-rate; for it need not now be said, as Rénoy justly observed in 1883, "that the brilliant achievements in the diagnosis of valvular disease effected by means of auscultation, have led to some injurious neglect of the non-valvular diseases of the heart."

We are all familiar with the classical divisions, fatty degeneration, fatty infiltration and fibroid disease of the heart, but of late, changes in nomenclature have brought prominent to the front in the later writings, the terms arterio, capillary, fibrosis, defining peripheral changes; arterio sclerosis, defining changes in the larger arterial trunks, and myocardial sclerosis or arterial sclerosis of the heart expressive of the changes which take place in the muscular structure of the heart or in the inter-ventricular septum, a most important point to be borne in mind. I do not propose to discuss at any length the older and better known divisions, but rather to present some of the later views on the subject of the vascular changes which sustain a causal relation to sudden death.

Dr. McWilliam, in his admirable article on heart-failure, in the *British Medical Journal*, January, 1889, cites Ludwig, Hoffa and Kronecker, and presents a synopsis of their careful studies on the subject under consideration. I may further state that I do not deem it profitable to discuss on this occasion, as of primary importance, the influence on the duration of life of the gross lesions, wherein the physical signs are fairly well marked, but the more important of the causes of sudden death from cardiac failure wherein no large and appreciable lesion exists, ante-mortem.

Formerly, it was assumed that cardiac failure took place with greatest frequency in the midst of quiescent standstill in a state of diastole, but it is now just beginning to be considered more probable that sudden arrest

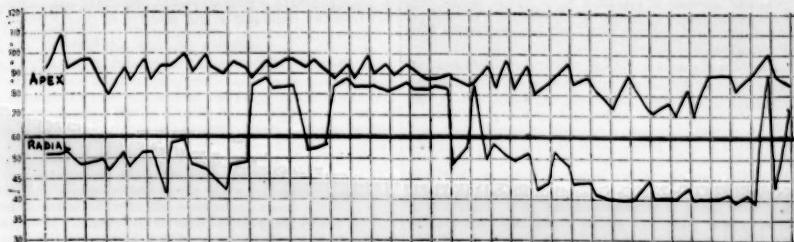


Chart illustrating the difference between the Pulse at the Radial and the Apex in cases of Heart-Failure.

of cardiac function does not usually take place during diastolic pause, but that, on the contrary, there is set up a violent though irregular inco-ordinated manifestation of ventricular energy; that is, in the majority of cases of sudden death from this cause the ventricle is overloaded, not because its muscular walls are at rest, but because there is tumultuous activity, irregular in character and wholly ineffectual as regards its results, because of the inco-ordinate action of the cardiac muscular bundles, whose normal function is co-ordination, regularity and effective propulsion of ventricular contents, or in other words, an incomplete and ineffectual ventricular systole. To this most important division of the subject I consider we must look for the best explanation of the *immediate cause* of sudden death in "heart-failure."

We note an apparent discrepancy in the reports of autopsies following sudden death in "heart disease;" in some, large and quickly detected evidences of disease are mentioned, in others, lesions relatively insignificant in gross appearances and in extent are found to have been productive of one and the same result.

McWilliam claims that this may be explained by the existence in the heart, as in the brain, of regions tolerant or indifferent in regard to destructive lesions, and of other intolerant regions; and one of the regions most intolerant of myocardial changes, and most productive of the results forming the subject of this paper, is the inter-ventricular septum.

One of the most competent observers estimates that in about ninety-five per cent. of cases of sudden death from "heart failure," as shown by autopsies, the heart itself was disorganized. Chronic myocarditis existing as a degenerative process, in connection with chronic inflammation affecting the cardio-vascular system as a whole, and notably the coronary arteries.

Balfour's articles in the Edinboro *Medical Journal* of last year on the senile heart, present carefully considered conclusions well worthy of consideration.

He places much stress on the causes which lead to dilatation and are associated with impaired nutrition of the myocardium, and diminish its power of overcoming the resistance established in the arterial walls through the influences of advancing age. Balfour discusses at considerable length the subject of sclerosis of the coronary arteries, as a most important factor in that impairment of power, "heart-weakness," so evident when heart-failure declares itself in the presence of violent emotions, sudden over-exertion, and in the onset or during the progress of obstructive inflammatory disorders, notably of the pulmonary tissues.

Recent studies and observations of the conditions found associated with chronic endarteritis have also thrown much light on the causes of heart-failure, a result of disease of the walls of the heart from retrograde changes in the vascular system, extra-cardiac, principally, if not wholly, arterio-sclerosis or loss of arterial elasticity, whose chief objective signs are an accentuated second sound in the aortic area, a firm, tense pulse, and a pulse-tracing, indicative of high arterial resistance, or as is frequently expressed a pulse of high tension.

Balfour adds as an important contributing element in heart-failure, the conditions of the peri-vascular tissues, the vascular environment, flooded as it always is with blood plasma, establishing an inter-arterial pressure, a more important source of peripheral resistance than is found even in the sclerosed peripheral arterial walls.

Allbutt, Roy and Adams, Stokes, Gairdner and Bristowe, and a host of other observers, may be cited in further confirmation of the views now entertained bearing on the influences on heart of increased peripheral resistance.

Huchard and Weber have studied with great care the subject of arterio-sclerosis, primarily, peripheral, secondarily, proximate, and finally, myocardial, as induced by an intoxication, by a diathesis, or by excesses, all of which tend to increase resistance in the arterial walls.

These observers describe the local myocardial effects under three heads: dystrophic, in which the sclerosis is first established in each vascular territory as far as possible from the corresponding nutrient artery, so that the muscular substance deteriorates centripetally; whereas in the second variety, inflammatory, the inflammation is primarily a peri-arteritis, and by centrifugal extension is propagated to the myocardium; in the third variety there is a mixed condition, an endo-peri-arteritis.

Clinically the picture is less distinct, the symptomatology is so defective that a differential diagnosis cannot be established during life; for myocardial-sclerosis is only one of the local results of a disseminated arterial sclerosis, found simultaneously in other important organs beside the heart.

I have the privilege of presenting here extracts from advance sheets of an article on Diseases of the Heart and Pericardium about to be published in Sajous's American Annual, in the preparation of which I have the great pleasure of acknowledging the valuable services of Dr. Vickery and Dr. E. M. Greene.

Cardiac sclerosis is preceded by a latent period, the symptoms of which, according to Huchard and Weber, are a firm, small pulse, with a sudden rise and rapid fall; a state of arterial tension exaggerated in consequence of an intermittent or permanent spasm of the peripheral arteries, which often causes pallor of the face and integuments, local anemia, and sensation of coldness wrongly attributed to the condition of the kidneys; polyuria, palpitation at night or during digestion, disturbed cardiac rhythm, and tachycardia; rapid pulse, pulsation of arteries, physical and intellectual fatigue, cerebral sensations of lightheadedness and vertigo, strong cardiac pulsation over an increased area, signs of cardiac hypertrophy. Huchard has pointed out the frequency of permanent or temporary smallness of the left radial pulse, and insists on the importance of the accentuated second aortic sound. At length, the cardiac lesion plainly manifests itself. The phenomena are not always the same, but several symptomatic forms may be distinguished. Huchard distinguishes five types symptomatically of arterio-cardiac disease: (1) *Pulmonary*, often marked by violent attacks of cardiac asthma, feeling of oppression in chest, and weight in epigastrium, dyspnea without albuminuria. (2) *Painful* type, simulating angina pectoris. (3) *Arythmic* type, with two subdivisions: (a) cases marked by sudden violent disturbance, called *folie du coeur* (insanity of the heart); (b) a permanent but insidious arrhythmia without symptoms, often discovered by accident. (4) *Tachycardiac* type, transitory or permanent, pulse ranging from 150 to 220 beats a minute. (5) *Aystolic* type, the most important, a result of acute dilatation of the left ventricle.

Huchard recognizes three successive stages of the arterio-cardiac sclerosis: (a) pre-arterial, increased arterial tension without vascular lesion; (b) cardio-arterial, vascular endarteritis, at first peripheral, then visceral and myocardial, always associated with increased arterial tension; (c) mitro-arterial, dilatation of cardiac cavities, auriculo-ventricular orifices, and, above all, lowering of arterial tension.

The aystolic condition of valvular origin is slowly and progressively developed, and its course measured by gradual peripheral edema, visceral congestions, diminished amount of urine, and all the signs of cardiac weakness; on the other hand, arterio-cardiac aystole is marked by a sudden, unexpected, acute onset. A sudden spasm of the vessels causes increased resistance, and demands of the degenerated heart a corresponding muscular force which it does not possess. Slight fatigue, simple bronchitis, or some scarcely appreciable cause precipitates a condition of frightful dyspnea, cyanosis, and feeble pulse. These attacks may be repeated at intervals of several hours or several months. They finally bring on edema, diminished urine, albuminuria, permanent aystole—a condition which is easily mistaken for that form of valvular disease in which the souffle is not heard, owing to the weakness of the cardiac contractions.

Prognosis depends on the type and intensity of the symptoms and the complications. The chief therapeutic guide is the condition of arterial tension. For increased tension, iodides, nitrates, blood-letting. Digitalis is contraindicated. In lowered tension, digitalis.

Huchard² describes the aystole or, better, cardiotactic form of arterio-sclerosis of the heart. This is the most important variety of arterio-sclerosis, and has the gravest prognosis. The sudden, unexpected, frequent attacks of aystole which supervene in the course of cardio-arterial disease present distinct courses which are not met with, to the same extent and in the same form, in cases of simple valvular disease. In the latter we can almost foresee the course of the disease, and the myocardial insufficiency, progressively increasing, is measured by peripheral edema and repeated congestions, which invade, in turn, the viscera and tissues, by scarcity of urine, diminished praecordial shock, and all the signs of cardiac weakness. In cardiac disease of vascular origin, on the contrary, the most marked aystole appears suddenly. It may, as in valvular affections,

be accompanied by edema, anasarca, or passive hyperemia. But from the beginning it may also run its course without edema or congestions. It is asystole in the true sense, because the heart alone appears affected and undergoes acute dilatation, for which the insidious and latent lesions of the cardiac muscle have long prepared the way. In the first case, vascular weakness and progressive enfeeblement of the contractility of the vessels advance simultaneously with progressive insufficiency of the myocardium, and it is, in reality, a cardio-vascular weakness. In the second case, on the contrary, it is the exaggerated vascular contractility which predominates, and constitutes the principal danger by suddenly augmenting the peripheral resistance and imposing on the heart excessive work, to which it succumbs because of its already altered structural elements. Hitherto the heart was sufficed for moderate work, but the time arrives when, for a cause still unknown, but, without doubt, due to the irritation of the sclerotic process in the arterioles, the latter contract and cause acute dilatation of the heart. In such cases vasodilators and depressors of arterial tension are indicated, and often free venesection, which may be followed by almost marvellous results.

Obstacles to correct diagnosis in diseases of the myocardium are frequently large, if not insuperable. The physical signs are often obscure and misleading; but there are three important stages in the various myocardial disorders which admit of quite definite conclusions, based upon the rational and physical signs. I refer to hypertrophy, dilatation, and cardiac insufficiency or cardiac weakness. Hypertrophy is, of course, never to be regarded as a disease, and treatment in cases of hypertrophy must be directed to its cause.

Dilatation, whether secondary to valvular disease or dependent upon degenerative changes in the myocardium, offers a larger opportunity for thoughtful consideration with reference to prognosis and treatment. Acute dilatations, associated with acute diseases or occurring in the course of the anemia of young women, are comparatively free from danger. When the dilatation is secondary to aortic obstruction, the danger is much increased, the prognosis is much more grave, and the results of treatment are very unsatisfactory; but when the dilatation is the expression of a gradual change, the result of an influence inducing progressive departure from normal condition (and such influences abound in the largest degree in arterio-sclerosis), any improvement is but temporary.

Cardiac weakness observed in connection with myocardial disorder originating in excesses, from diatheses (whether specific, gouty or rheumatic), or from the poisons of lead, malaria or alcohol—if in any important sense associated with acute inflammatory disease—must, of necessity, give rise to the gravest apprehensions; and it is in just such circumstances as those mentioned that a very large percentage of the deaths recorded of late have taken place.

I hardly know how to express myself with reference to the subject under consideration better than by a brief recital of the circumstances of a single case, which made a profound impression upon a large circle of friends and acquaintances, as well as upon the attending physician. Similar cases, undoubtedly, have occurred in the experience of each one present tonight.

Mr. I., forty-one years of age, well known for years as a man of apparently robust health, formerly active, latterly indisposed to make much exertion, living in a fashionable hotel, and yielding to the temptations of the table (but not intemperate in the use of alcohol), had, within two years, grown fat and soft, increasing

² May 26, June 2, 1888.

his weight from one hundred and sixty to two hundred pounds.

In January he had the "influenza." Two weeks after, he consulted me for the first time professionally, for general debility, dyspnoea on exertion, and occasional attacks of palpitation, with substernal pain.

No explanation of his condition could be offered him other than heart-weakness and general debility, growing out of *la grippe* and his rapid increase in weight. A few days later he had a slight chill; the same evening, a small patch of catarrhal pneumonia in right lower front; the next day, another chill, and slight increase in the broncho-pneumonia; that night, a sudden and rapid rise in pulse-rate (136, 146, 160), a general pulmonary oedema, cyanosis, unconsciousness, and, before morning, death.

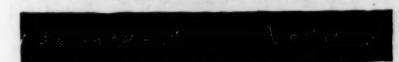
Dr. Whittier exhibited the following sphygmograms, as showing the different characters of the pulse-wave in various forms of heart-failure.



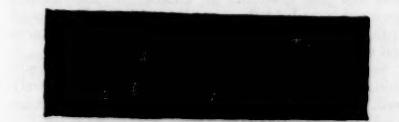
Tracing in condition of Heart-Failure — typical (sharp rise, sudden fall, slight sustaining power).



Tracings from Asystolic Varieties of Arterio-cardiac Sclerosis.



Paroxysmal Tachycardia. Specific origin.
First Diagram.—Pulse-rate 176. At one attack, and during thirteen hours, the pulse ranged from 200 to 205.
Second Diagram.—Tachycardia, Asystole. Radial 86, Apex 176. Patient still alive.



"Permanent Slow Pulse."
Arterial Sclerosis, Bulbar Ischaemia (Huchard).



Delirium Cordis ("Insanity of the Heart").
Incoordinate, irregular, tumultuous, fibrillar contractions. Chronic Myocarditis, with dilatation and muscular incompetency of the mitral valve.

A CASE OF RUPTURED INTESTINE.

[Under the care of Dr. Conley.]

REPORTED BY H. F. LEWIS, M.D., CHICAGO.

CHARLES B., aged twenty-eight, American, while tending a circular saw, was struck in the right side of the abdomen by a flying piece of plank. He was thrown several feet, did not lose consciousness, but was unable to rise or to move without great pain. Shortly after the injury he vomited. The vomitus consisted of the ordinary contents of his stomach. About three hours afterwards he was brought to the Cook County Hospital, and was admitted to the service of Dr. Conley. When I saw him he seemed to be in great pain, lay on his left side with his legs drawn up, tossing nervously and screaming. There was great tenderness in the right lumbar and right umbilical regions, less in the rest of the abdomen. The abdomen was not swollen, but its walls held as tense as a drumhead. There was no ecchymosis. His pulse was not fast, and of good strength. Percussion and palpation were negative, revealing no tumor and no effusion of fluid. The urine, drawn by catheter, was of normal appearance. There was absolutely no sign of shock. His temperature was normal, and his only symptoms were pain and tenderness. There was occasional vomiting, but he retained part of the liquid nourishment given him. He took one-half a grain of morphine during the evening, and slept fairly until morning, when he again had severe pain. He received one-quarter of a grain more, and thereafter did not suffer. His pulse and general appearance remained good all the morning.

In the early afternoon his pulse was found to be 126, and not so strong as earlier; temperature 101.8°, and a rather quick respiration.

At 4.30 P.M. his pulse was 120 and weak, his temperature 98.6°, and respiration 54. His expression showed visible signs of shock.

At 8 P.M., under ether anesthesia, Dr. Conley made a median incision into the peritoneal cavity. A fetid yellowish watery fluid escaped, and a few melon seeds. The intestines were reddened, and covered in many places with a fibrinous exudation. Pulling out a loop of the ileum, the operator found a rent about one inch long, with ragged and contused edges. This was closed by a continuous Lambert suture of fine silk. There were also several small areas of ecchymosis in the neighboring intestinal wall. The abdominal cavity was irrigated with atomized boric acid solution until the fluid came away clear. A glass drainage-tube was passed to the depth of the pelvis, and an absorbent dressing applied. Time of operation, one and a half hours. The patient was ordered frequent stimulation per rectum and hypodermically.

At midnight of the second day the temperature was

102°, at which point it remained until 10 A. M. of the third day, when it dropped to 99.5°. The patient died at noon of the third day, sixty-eight hours after the injury and sixteen after the operation.

At the autopsy was found a general purulent peritonitis, some ecchymosis of the parietal peritoneum in the right lumbar region, several points of ecchymosis in the wall of the ileum about two feet above the colon and the line of the intestinal suture. The closure was found to be complete.

The features of this case were the continued good pulse, normal temperature, and absence of tympanites or other symptom of such extensive peritonitis as the operation showed to exist. All of his earlier symptoms might easily be accounted for by contusion of the abdominal walls or concussion of the solar plexus.

In the "Transactions of the London Chemical Society," xxi, 1888, are related several recent cases of rupture of the intestine without external wound. In one case a wagon-wheel ran over a man's abdomen. Death in 48 hours. Autopsy showed an opening in the small intestine as large as a silver quarter, and much contusion and congestion of neighboring gut. In a second case a young man was struck in the belly by a playmate's head. There were symptoms of local peritonitis in the left iliac fossa. The autopsy showed a collection of pus in that region, and fifteen inches above the cæcum an area of neurosis in the ileum and a perforation.¹ In a third case a man fell on his belly, and soon showed marked symptoms of perforation. Laparotomy 18 hours afterwards. The ileum found torn one-third across its circumference, the mesentery torn to the extent of one and one-half inches, and the omentum in the region of the umbilicus lacerated. An artificial anus was formed at the point of rupture. The patient lived one month, and succumbed to an operation to close the artificial anus.² In a fourth case a man fell ten feet into a hole. He walked to the hospital, was treated for wounds of the eye and elbow, went home a distance of two miles, and returned in the afternoon suffering from severe vomiting and abdominal pain. These symptoms continued two days, and then tympanites developed. Laparotomy disclosed a tear in the small intestine through the serous and muscular coats (sewed by Lembert sutures). Near by was a complete rent one inch long, allowing escape of feces. An artificial anus was made here, opening on the left side on a level with the umbilicus. Death in 2 hours. A fifth case was that of a man struck in the belly. Six hours after the injury laparotomy was performed. Gas and bloody fluid escaped. A tear was found in the jejunum one-half an inch long, and sutured. There was also beginning peritonitis. The patient died in about twenty-four hours.³

Robson advises, in all cases of suspected rupture of the intestine, that a small incision into the peritoneum be made. If gas or foululent fluid be found the diagnosis is made, and more extensive operation is indicated. Lenn's gas test would hardly be indicated, because one would fear to cause a contused and congested portion of intestine, that might otherwise recover spontaneously, to rupture from the presence of the hydrogen.

— Influenza is said to have broken out again in different parts of Germany.

¹ Dr. Herbert Page.

² Dr. John Croft.

³ Dr. Mayo Robson.

Clinical Department.

A CASE OF RHINOPLASTY.¹

BY DR. GEORGE COOK, OF CONCORD, N. H.

THE case was that of a woman, white, aged thirty-eight; married; American; occupation, house servant.

September 19, 1887, admitted to hospital with following history: Seven years previous she received a blow over the nose with the large end of a whip. Pain and swelling followed, abscess formed and pus and pieces of bone discharged. This continued for two years, when the nasal bones and the osseous nasal septum had become entirely destroyed. The tip or cartilaginous portion of nose remained, and there was an elliptical opening one inch long by one-half inch wide.

For five years previous to her admission to hospital she had been in the habit of wearing a piece of adhesive plaster cut to just fit on the edge of the opening. There were also two openings in the hard palate, which were quite small. She states that at the time of receiving the blow she was pregnant. She had had two miscarriages before, but this went to full term and the child is alive now, being ten years old, but has always been feeble. She also states that previous to the blow she never had any humor or sores about her. She had been under the care of different physicians and all used some form of specific treatment. While the blow may have been the exciting cause, some constitutional taint must have been present.

As she had been under a course of iodide treatment before entering the hospital she was put onto hydrargyro-proto-iodide (one quarter of a grain, one pill daily at bed time) and also tincture of cinchona compound (one drachm three times daily).

September 20th, with local use of cocaine we tried to cut away the mucous membrane that had become cicatricial about the holes to hard palate and bring the edges together, hoping to close the holes with mucous tissue; but the bony substance about the palate broke into bits as soon as it was touched, and the mucous tissue was so easily torn that we found it impossible to do much here — indeed we made the holes longer.

The next day, September 21st, under ether we attempted to fill in tissue over the nose. Taking a piece of the adhesive plaster — which by long practice she had learned to cut very accurately — as our pattern, it was placed in an oblique position on forehead so that the pedicle would come near the internal angular process, and the whole tissue down to the aponeurosis of the muscle was dissected up, having a pedicle about one-eighth of an inch wide. Then this new tissue was brought into the gap of the wound of the nose and just filled it. A number of fine sutures were put in to hold the parts in position. The wound in the forehead was drawn together by strong sutures and the whole dressed by iodiform and gauze.

September 30th, the nose graft had become firmly united and the wound in the forehead was entirely well. The patient was kept in the hospital for some weeks under specific treatment.

¹ Reported at the meeting of the New Hampshire Medical Society, June 16 and 17, 1890.

Dr. G. A. Young of this city made an artificial plate for the mouth, which keeps the food from getting into the nasal cavity, and enables the patient to talk much better.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY.

H. F. VICKERY, M.D., SECRETARY.

ANNUAL Meeting, Saturday, April 26, 1890, the President, DR. G. W. GAY, in the chair.

DR. E. N. WHITTIER read a paper on

HEART-FAILURE.¹

DR. F. I. KNIGHT: Dr. Whittier has presented the case so fully and clearly that little remains to be said.

In regard to the frequency of returns at the City Hall, of death from heart-failure, I think perhaps we might put a little different interpretation upon a great many of those cases from what Dr. Whittier did, that is, it is the fashion to call cases of sudden death cases of heart-failure. It is something I regret very much, and have almost decided never to use the word at all. I get disgusted with the constant repetition of this term in connection with cases to which evidently it ought not to be applied, and I think a great many of the returns will be found to be made by men who are ignorant of diagnosis and who are very glad to have this term to get behind. It does not convey any more idea of what the patient died of than to say he died of "heart disease." I do not think it is any improvement. It covers cases of thrombosis, of sudden pulmonary oedema, etc. But it is certainly true that legitimate cases of degeneration of the myocardium are increasing in the community to an alarming extent, and due probably to fast living. You see it in just the kind of people who have other degenerative diseases, Bright's disease, etc., and the last picture Dr. Whittier drew is one constantly occurring, and that is the one class of cases which we feel the surest of,—men somewhat advanced in life, complaining only of dyspnoea on comparatively slight exertion, having anginal pains and perhaps a little irregularity, but with no marked physical signs. Those are the cases in which we should be very guarded in our prognosis. During this past winter I have had two or three patients who have died very suddenly. One was recently reported, correctly I think, as dying of heart-failure, in New York. I had seen him just previously and given a very doubtful prognosis to the friends. It is a class of cases which is increasing, and one which we should look out for.

DR. H. S. SOULE: I fully agree with the gentleman who has just taken his seat, and will only add that I have seen quite recently three cases reported as heart-failure, and at the post-mortem the heart, to all appearances, was pretty healthy, but the right lung and part of the left were not only congested but completely filled up. Two of these cases were reported as deaths from heart-failure and the other from heart-disease.

DR. G. W. GAY reported a

CASE OF GASTROSTOMY.²

DR. WARREN: I have on one occasion had an

opportunity to perform gastrostomy, as I believe also Dr. Gay himself has on one occasion previous to this. My operation was done several years ago, and as it has already been published it is unnecessary to go into details: suffice it to say that the patient lived about four months. I was not very well satisfied with the operation. The great difficulty in the management of the case, after operation, consists in keeping the food in the stomach, according to my experience, so that it shall not leak out again. That is stated to be the case in a number of reports of similar cases. Patients are usually afflicted with a more or less troublesome cough. There is great emaciation usually, and the abdominal walls sag inwards as the patient lies down, the cartilages of the ribs being prominent. When he coughs the walls, instead of being dependent, bulge out in a dome-like manner, at the apex of which is the artificial opening through which food or other contents of the stomach are expelled. The method usually adopted for overcoming this difficulty is the one Dr. Gay used, namely, making a very minute opening so that the bulging mucous membrane will practically close it. I attempted at first to keep a catheter in the stomach, but there was a tendency for the opening to contract. Finally I got considerable relief by making the opening still larger and introducing a sort of dumb-bell shaped tube, so that when an expulsive effort was made in coughing the inner portion would act like a valve. This worked tolerably well. At times, however, there would be leakage and the clothing would be saturated with the contents of the stomach, so that although the patient was up and about and in comparative comfort I felt that modern surgery ought to give us something better than the operation of gastrostomy as it is now performed for the relief of this disease. I made a number of experiments after that, on animals, based on the condition which is reported to have existed in the stomach of Alexis St. Martin. He lived fifty years with quite a large wound in his stomach, for the reason that the mucous membrane was in a dependent fold on the inside of the fistula, and formed a valve which prevented the expulsion of the food during distension of the stomach. We do not hear any reports of his being disturbed by leakage of the fistula. I succeeded in reproducing this valve-like opening in a dog. A tuck was made in the front wall of the stomach, a portion of the stomach cut and lifted up so that when the opening was subsequently made there was a fold of two thicknesses of the stomach wall immediately over it, which, when pressure was exerted from within, prevented leakage of the orifice of the opening. A large dog arranged in this way ran about comfortably with fluids in considerable quantity in his stomach without leakage. On passing a probe through the opening and lifting up the valve milk would dribble out on the floor, showing that there was such a valve there, and after killing the dog and examining the place the valve was found to exist. I had some difficulty, however, in preserving this condition of things indefinitely, because the fistula, if left to itself, contracted and healed over as I think it did in that particular case. To overcome that a spool was placed in the fistulous opening, such as Dr. Bowditch uses for his observations on the gastric fluids in animals, but any such apparatus which had a sufficiently large flange on the inside, so that the dog could not gnaw it out with his teeth, was so large that it pushed aside the valve or the valve was

¹ See page 222 of the Journal.

² See page 223 of the Journal.

not competent to cover it entirely and leakage would take place. If it was made small the dog got hold of it with his teeth and pulled it out, or it tumbled in and healed over.

It seemed to me possible that such an operation might be done on the human subject, a fold being caught quickly, lifted up and stitched above, and the opening made in the anterior wall of the stomach without great difficulty. One hindrance in carrying out such an operation as that would be the contracted condition of the stomach in patients who are starving from stricture. The stomach is small, the walls thick and unyielding, and there would not be the pliability to enable one to make such a valve very well. It would require a good many stitches and considerable time to make the valve hold, and I think it would be a difficult and not very practical thing to carry out. Accordingly I turned to other methods of relief in this disease, and at my suggestion Dr. Mixter had imported from London a number of esophageal tubes adapted for intubation of the esophagus, which were devised by somebody in London. They consist of a number of short tubes about six inches in length, with a funnel-shaped opening. There is attached to one edge of the funnel a long thread and an ordinary esophageal tube or whalebone with ivory point, which can be inserted into this cup-shaped funnel. By means of a string the tube will be held firmly against the end of the whalebone, and can be passed down as an ordinary esophageal tube into the esophagus and engaged in the stricture. When it comes so far down that the flange is just at the point of the stricture, the whalebone can be disengaged and withdrawn, the string remaining, coming out of the mouth and being tied around the ear for the purpose of removing the tube when necessary for the purpose of washing. I had in the hospital three cases of stricture of the esophagus, one cancer, the other two strictures due to the action of caustic potash. The method commanded itself to me decidedly. In the case of the cancer it worked very satisfactorily. The patient had lost forty or fifty pounds, was very much emaciated, and experienced great relief and satisfaction on the introduction of this instrument, and gained in weight during the first few weeks after the instrument was introduced. After that there began to be a certain amount of trouble in the management of it. When the instrument was withdrawn it caused a good deal of retching and vomiting and coughing. The operation of withdrawal and replacement sometimes led to a certain amount of febrile disturbance which would confine him to his bed. It did not work occasionally, and had to be left out a week at a time. Wearing it a considerable time dilated the stricture, so that he was able to go without it very well. I wish I had taken pains to follow up this case. I kept the run of him a month or two. He ceased coming to the hospital, and probably died soon after.

The general impression I had from that intubation of the esophagus was that the method was more satisfactory than gastrostomy.

The two cases of stricture perhaps deserve brief mention. In the first case it worked nicely for a little while. When we attempted to withdraw the tube for the purpose of washing it, it would not come. The patient had pain in the region of the epigastrium and some febrile disturbance. Strong traction failed to bring it, and then it was left alone, and after about a

week the string was cut and the tube abandoned. The statement made by its inventor was that when the tube was passed through the stricture, it could go through the intestinal canal without difficulty, and although I think it took two or three months to do it, it finally passed through, the patient experiencing no disagreeable symptoms from the process. After that we contented ourselves with keeping the esophagus dilated with esophageal bougies.

Another patient had great relief from temporary use of the intubation method, and after that he was very well contented, became an out-patient and visited the hospital occasionally, to have the esophagus dilated with esophageal bougies.

I should recommend a thorough trial of this method. In three cases in which I have tried it it has led to no dangerous results, and has been productive of great comfort to the patient.

DR. RICHARDSON: There will remain a certain number of cases of stricture of the esophagus which cannot be treated by the intubation method which Dr. Warren has described. The tubes which Dr. Mixter imported were used first on the case—I think a case of corrosive poisoning—which entered my service, and they worked very satisfactorily, but that stricture could be dilated very easily at that time by the passage of the esophageal probang, and I think the other cases could. I would like to know what can be done in the way of intubation where nothing can be passed through. We see such cases from time to time. I have had no experience in passing this instrument, but I should infer that it could not be introduced in certain cases and could not be used.

As to the question of prolonging life by opening the stomach, I think Dr. Gay has given his opinion and experience as unfavorable to performing that operation. I think we are constantly meeting that very condition not only in cancer of the esophagus, but also in cancer of the large intestine, in the malignant stricture of the sigmoid flexure, and the question is certainly discussed with us constantly at the Massachusetts Hospital as to the advisability of prolonging life by such an operation as that of artificial anus. I think the two conditions are very similar, the objections very similar, and the results very similar.

The objection to both operations is the discomfort caused by the expulsion of irritating juices from the stomach. The same is true either in the lumbar operation or in Littré's operation, and hence the view taken by many men that neither operation is justifiable, that we are merely prolonging the patient's misery, and that he ought to be allowed to die in the first place as comfortably as possible. I agree with Dr. Gay that not only in stricture of the sigmoid flexure, but in stricture of the esophagus, we ought not to let the patient die, when he may have possibly six months or a year, or in some cases several years of comparative comfort. I never had any experience with gastrostomy, either with the relief that it gives or with the discomfort that attends it, except in the case referred to by Dr. Warren. That patient I saw very frequently, and his life was prolonged. He suffered a great deal of discomfort, and yet his suffering from the disease itself and from the starvation which accompanies it was very much relieved. I think that in both these conditions we are justified in operating, and that it is our duty whenever the patient wishes it, but I think it should be left with the patient and his friends to decide

about prolonging life by these operations. I do not think it would always be as difficult as it proved to be in Dr. Warren's case, to retain the contents of the stomach.

In all the cases I have had of stricture of the oesophagus the patients have declined to have any operation done, and I have watched them die with the suffering which necessarily attends malignant disease—suffering in comparison with which the discomfort of opening the stomach or of an artificial anus is very slight.

In a discussion at the International Congress at Washington on the allied subject of lumbar colotomy the opinion expressed by most men was favorable, and that by making an opening in the intestine in cancer of the sigmoid flexure the relief afforded was very great indeed. I think the operation of gastrostomy is a very similar one, and that with more experience we shall be able to perform it more satisfactorily.

DR. GAY, in closing, said: The longer I live the less dogmatic I am on the matter of prolonging life in malignant disease of certain parts of the body. In cancer of the oesophagus, for example, I doubt if we prolong life much in numerous cases by operation. Nor is that a question which needs concern us as much as that of comfort. The days of one afflicted with cancer of the gutlet are numbered, and it is of comparatively little moment with many persons whether they live three months or six months or longer, but it is of supreme importance that the latter part of their life be made as comfortable as possible; that the pangs of hunger, and the torture of prostration and restlessness be mitigated. In other words it is the surgeon's duty to make his patients as comfortable as possible while they do live, rather than to prolong life at the cost of great and unavoidable suffering.

While no one is justified in basing any conclusions upon the experience of one case, I cannot but feel that my patient was much relieved by the operation of gastrostomy. I doubt if he lived any longer, perhaps not as long by reason of the operation, but under similar circumstances I would advise, and do it again. Intubation is doubtless a valuable method in some instances, but in others it is not efficient, and while a fistula is not as good a measure as we could wish, yet it is the best we have at present.

Recent Literature.

The Cerebral Palsies of Children. A Clinical Study from the Infirmary for Nervous Diseases, Philadelphia. By WILLIAM OSLER, M.D., F.R.C.P., London; Professor of Clinical Medicine in the University of Pennsylvania, etc. 8vo, pp. viii, 103, with six illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

These admirable lectures on a class of affections even now rarely recognized were delivered two years ago, at the Infirmary for Nervous Diseases, and were afterwards published in the *Philadelphia Medical News*. They are based on a study of 151 cases at the Infirmary, and at the Institution for Feeble-minded Children at Elwyn. Of these cases 120 had hemiplegia, 20 double hemiplegia, and 11 paraplegia. Of the 120 cases of hemiplegia, 57 were boys and 63 girls, 68 cases were right hemiplegia, and 52 left; the greatest

number occurred before the age of three. The first chapter is devoted to the etiology, the infectious diseases, convulsions and trauma playing the most important part. In nine of the cases forceps were used at birth, and the paralysis is regarded as due to their influence. It seems questionable, however, whether the forceps must be made responsible for such conditions; for the pressure upon the cranium in cases of protracted labor or in irregular presentations must certainly do more harm than the temporary pressure of properly-applied forceps, especially if they are used before the pressure of a narrow pelvis has been too protracted. The second chapter is devoted to the symptoms of hemiplegia, illustrated by representative cases. Little is said of the significance of initial and repeated convulsions as an indication of a cortical lesion. Like most observers, Osler finds aphasia a rare symptom, only thirteen cases of speech disturbance being noted. Mental weakness, except among the Elwyn patients, was noted in only ten per cent., which Osler thinks may be due to the fact that the majority of the patients were seen in the early stage. Clasp-knife rigidity and cross-legged progression with irregular and ataxic movements, were the commonest conditions noted in diplegia. In common with most authorities now, Osler holds that, at least in the majority of cases, the spastic paraplegia of childhood is of cerebral origin. The chapter on pathology is, necessarily, unsatisfactory. The writer has dwelt too little on the distinction which sometimes can be made between cortical and basal lesions. The former are probably the commonest in the cerebral palsies of children, and, as a result, we find sclerosis or parencephalus—the effects of a still obscure cause. Osler holds that the most important processes are hemorrhage, occurring during violent convulsions or during a paroxysm of whooping-cough; post-febrile processes, embolic, endo- and periarterial changes, and encephalitis; and thrombosis of the cerebral veins. Strümpell's polioencephalitis he holds is still doubtful. Hemorrhage he regards as chiefly meningeal, intra-cerebral hemorrhage, from causes similar to those in the adult being comparatively rare; and venous thrombosis is still doubtful. The prognosis is doubtful, and complete recovery is probably extremely rare, the hand seldom regaining the power to make fine movements. Massage, Faradism, and orthopedic measures give the best results in treatment; and, in addition, careful education in feeble-minded patients will often give good results. Brain surgery, except in some cases of cortical epilepsy, is considered to be of no value.

P. C. K.

An Experimental Study of Lesions Arising from Severe Concussions. By B. A. WATSON, A.M., M.D. 8vo, pp. 76, with one illustration. Philadelphia: P. Blakiston, Son & Co., 1890.

The attention paid to the study of the traumatic neuroses makes this study of peculiar interest at the present time. The experiments, 141 in number, were performed on dogs, and consisted in dropping them from a height of twenty-five feet, so that they struck the nates or the spine. The symptoms which followed were carefully noted, and an autopsy was made a few days after. In fifty cases the cerebro-spinal axis showed pathological changes, in fourteen cases this change was primary. There were also very frequently noted traumatic lesions elsewhere, fifty times in the lungs, twenty-two times in the liver, thirty-six times in

the kidneys, and fourteen times elsewhere. In forty-one cases no lesions were found.

The writer points anew to the fact that the anatomical position of the cord is a great protection against injury. His conclusions are as follows: "(1) Concussive accidents never produce pathological changes in the spinal cord, except when great force has been applied to the spinal column, and these cases are generally, if not always, complicated with a fracture of the body of a vertebra, dislocation of the same, rupture or stretching of vertebral ligaments, or severe lesions in other parts of the body, which terminate quickly in death. (2) The symptoms indicative of these morbid changes are immediately developed, rarely become intensified by reason of morbid changes occurring in the spinal cord — exceptional cases being limited to fractures and dislocations, or those in which a slow hemorrhage occurs, causing pressure on the cord. (3) It is frequently very difficult to diagnose stretching of the vertebral ligaments on the living subject, and there are ample reasons for believing that this lesion is frequently overlooked in post-mortem examinations. (4) Injuries of the spinal cord, complicated with lesions of organs in the thoracic, abdominal and pelvic cavities, develop symptoms dependent on the *existing complication*, and the termination of these cases rests on the character of the traumatism. (5) Concussive force, although remotely applied, frequently results in the production of severe and even fatal traumas in various organs within the thoracic, abdominal and pelvic cavities."

It is unfortunate that the experiments have not been better tabulated. Cases in which no microscopical examination was made have been classed with cases with no lesions. No distinction, moreover, has been made in the lesions found in animals, presenting, during life, morbid symptoms, and the lesions or lack of lesions in animals apparently uninjured. In view of the importance of vascular disturbances, as observed in man and emphasized by recent autopsies, too little weight has been given to hyperemic conditions of the brain and cord. It might have been of value, too, to observe the later changes. In only two cases was the animal kept alive beyond a few days. A longer duration of life, in animals that showed signs of injury, might have led to the development of morbid changes which the author has disregarded. Although the experimental work shows evidence of careful study, the summing up of the work is indefinite and apt to be misleading.

A Hand-book of Obstetrical Nursing, for Nurses, Students and Mothers. By ANNA M. FULLERTON, M.D. Philadelphia: P. Blakiston, Son & Co., 1890.

This manual comprises the course of instruction in obstetrical nursing given to the pupils of the training school for nurses connected with the Women's Hospital of Philadelphia, and is based on the teachings of Dr. Anna E. Broome. The book is well written and well illustrated; and its teachings are eminently sound. The chapter on the care of the new-born infant is especially good, and includes explicit directions for artificial feeding. It is an excellent *vade-mecum* for nurses, and medical students would profit by its perusal; but we do not believe in putting such a book into the hands of those about to become mothers. While admitting a difference of opinion as to the advisability of pregnant women reading books relating to their

condition, we firmly believe that the harm done to women awaiting their labor by reading chapters on the accidents and emergencies of the lying-in room, decidedly over-balances the good that may ensue from the reading about the signs of pregnancy and the preparations for the impending event. Women should by all means be taught hygiene and the management of infants; but, in our opinion, the less a pregnant woman knows about the technicalities of child-birth, the better for her mental and physical welfare: such knowledge is for the doctor and the nurse.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By RICHARD C. NORRIS, M.D., Demonstrator of Obstetrics; University of Pennsylvania. Philadelphia: W. B. Saunders. 1890.

This syllabus has been prepared to assist students in the art of accurate note-taking, and to give them a logical and consecutive outline of their work. The book will prove of most use to the students of the University of Pennsylvania, as it is obviously based on the obstetric lectures of that school; but all students of medicine will find the Syllabus of material assistance, as it presents the subject very clearly, fully, and systematically. We are sorry that the University of Pennsylvania has not adopted the new obstetric nomenclature, which was suggested by Prof. A. R. Simpson and approved by the late international congress held in Washington. It is very desirable that nomenclature should be the same the world over; whether in obstetrics or mathematics.

Etudes de Clinique Infantile. Syphilis Héréditaire précoce, Laryngite Syphilitique, Broncho-Pneumonie par Infection Intestinale, Prophylaxie de la Rougeole et de la Diphthérie, à L'Hospice des Enfants-Assistés. Par le DR. SEVESTRE, Médecin de L'Hospice des Enfants-Assistés. Paris: Aux Bureaux du Progrès Médical. 1889.

This pamphlet of 141 pages begins with an exhaustive article on the early manifestations of congenital syphilis. The different lesions of the skin are illustrated by some very good wood-cuts, and this subject, as well as the next article entitled "The Early Laryngeal Manifestations of Hereditary Syphilis," are dealt with methodically and clearly. The third article is an interesting account of some cases of infectious bronchopneumonia where the poison apparently originated in the intestine. The fourth article describes the prophylactic treatment of measles and diphtheria at the Hospice des Enfants-Assistés. All the articles are well worth reading.

The Diseases of Children, Medical and Surgical. By HENRY ASHLEY, M.D., London, M.R.C.P., Physician to the General Hospital for Sick Children, Manchester; Lecturer and Examiner in Diseases of Children in the Victoria University; formerly Lecturer on Physiology in the Owens College and in the Liverpool School of Medicine; and G. A. WRIGHT, B.A., M.B. Oxon, F.R.C.S. Eng., Assistant Surgeon to the Manchester Royal Infirmary and Surgeon to the Children's Hospital. London and New York: Longmans, Green & Co. 1889. All rights reserved.

This work is written after a ten years' study of the cases which, during that time, had been seen at the

General Hospital for Sick Children at Manchester, where over 11,000 children are treated annually. The original feature of the book is that it is written conjointly by a physician and a surgeon. It is not an explanatory treatise, but, being based on experience, is not a mere compilation. There are 138 illustrations, taken mostly from photographs of cases that have been under the author's care. These illustrations add much to the value of the book, as they are unusually clear, and make especially prominent the surgical articles, which are exceedingly well written and practical. Much space is devoted to diseases of the nervous system, and under general diseases the subject of Rickets is clearly written and admirably illustrated. The article on feeding, besides being entirely inadequate in its length to cover this very important subject, is unreliable in its statements, and is remarkable for the bad advice which it gives; it is, in fact, a serious blot on an otherwise fairly written book.

A Manual of Anatomy for Senior Students. By EDMUND OWEN, M.B., F.R.C.S. With numerous illustrations. London: Longmans, Green & Co. 1890.

We do not feel very sure what the author's purpose may have been in writing this book, but we cannot consider it a success. In general terms, it may, perhaps, be called a good book; but there are so many good books on anatomy, that, to be worth much, a book must be very good, and this one is not. We gather that the author felt that applied anatomy, as treated in most works, is too nearly exclusively surgical; and he has meant to include more. We quite agree with him as to the merits of this plan, and he has had some success in carrying it out; but, as a whole, the book is unsatisfactory. The methods are old. The surface anatomy is not up to either Holden's or Thane's. Frozen sections are practically ignored. The illustrations are, for the most part, from other works, and consequently but too familiar, as accuracy has not been regarded as indispensable. Thus, there is an extraordinary figure of the convolutions (from Gray), and what purports to be a representation of a sagittal section through the female pelvis, representing the vagina as a nearly vertical round tube. The text, in many respects, is up to the times. The cæcum, for instance, is said to be, as a rule, entirely surrounded by peritoneum; but, on the other hand, there is no allusion to the division of the old corpus striatum into the nucleus caudatus and the nucleus lenticularis. There is consequently no attempt at a proper description of the internal capsule, and the treatment of the ganglia of the base is beneath criticism. If the corpora quadrigemina are even mentioned, we have failed to find the place. We could point out other deficiencies, but perhaps this is enough. Several of the diagrams are worthy of praise. T. D.

A Handbook of Physical Diagnosis of Diseases of the Organs of Respiration and Heart, and of Aortic Aneurism. By R. C. M. PAGE, M.D. Second edition. New York: J. H. Vail & Co.

The prompt appearance of a second edition of this work shows that it has met with the appreciation which it deserves. The book is clear, well printed, profusely illustrated, and may be recommended as a safe guide to the subject of which it treats.

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THE PRESENT STATUS OF BACTERIOLOGY.

At the late meeting of the Berlin Conference of Medicine, August 4th, Dr. R. Koch made one of the opening addresses, "On the Present Status of Bacteriology."

Fifteen years ago, he said, bacteriologists knew of the presence of micro-organisms in charbon, recurrent typhus, and the infectious diseases of wounds, but did not yet impute a serious etiological importance to them. Since then, new methods of research have given to microbiology a rapid development, for which progress we are chiefly indebted to improvements in microscopy, and to the employment of aniline staining reagents, all of which have enabled us to differentiate the germs of disease by means of cultures in various solid and liquid nutrient media.

By pursuing their investigations, bacteriologists have succeeded in identifying new micro-organisms and in establishing, with certainty, their etiological relation to the diseases in connection with which they have been met. It was hoped, after this first success, that we should rapidly accomplish the isolation and identification of the micro-organisms of all the infectious diseases. In this we have been disappointed.

To-day we may consider it as settled that the infecting bacteria are organized living beings, forming fixed and constant species, quite as independent as the vegetal organisms of higher order. They have certain acquired morphological qualities, and are not derivable from fungi, from moulds, or from the lower algae. Moreover, we can deduce from the existence of infectious diseases of great antiquity, such as leprosy, phthisis, the proof that bacilli preserve for ages their characteristic properties. Without doubt, varieties may arise, as in all species, but the former do not lose the principal characters of the species.

On a bad nutrient soil, imperfect forms of micro-organisms may be developed, forms which have lost the properties of the perfect microbes which thrive in living bodies and form toxic substances.

But these varieties remain within limits which are

very restricted, and never constitute a transition from one species to another; thus, for example, the bacillus anthracis never becomes the bacillus subtilis.

To determine the species of a bacillus, it will not do to be content with isolated, fixed or variable characters, but it is necessary to note the greatest sum possible of morphological and biological characters which the species under consideration can present, otherwise, there is nothing but misconception and confusion in bacteriology.

The presence of the bacilli of typhoid fever in the mesenteric glands, the liver, the spleen, cannot give rise to any mistake, because there are never found in those organs, similar bacilli. But we can easily be mistaken in endeavoring to identify the typhoid bacillus in the intestinal liquids, the water, or the air, for these media contain a great number of bacilli which much resemble it. The same mistake may be made with reference to the bacillus of diphtheria, so that it will not do to affirm the presence of a specific microbe in the water, the soil, in sewer pipes, etc., till the findings have been subjected to a rigorous criticism according to the method of exclusions and rejections.

Per contra, it has been possible to establish from the first, for the bacilli of tuberculosis and of cholera, characters which enable us to determine their species with absolute certainty. This result, this rigorous precision of diagnosis, is what we must require in the search for the bacillus of diphtheria and of typhoid fever. It is easy to understand the prophylactic value which a sure differentiation of these infectious agents would give.

Koch next asserts that his researches on the tubercle bacillus have taught him the bounds prescribed by prudence, and the need of extreme caution in these investigations. One can acquire certainty only after the study of the reactions under aniline staining fluids, and after long watching pure cultures and testing pathogenic qualities. He has thus been able to prove that the bacillus of tuberculosis of fowls differs in many respects from that of other animals; this he has shown both by cultivating it and by the results of inoculation. To know whether he had to do here with a special microbe, or a variety of the true bacillus of tuberculosis, he endeavored to produce artificial varieties of the tubercle bacillus by all sorts of procedures. He exposed cultures for many months to high temperatures, amounting almost to the destruction of the bacilli; he subjected them to the action of light, of moisture, of chemical substances, cultivating them in competition with other bacilli; passing them many times through the bodies of animals more or less refractory to tuberculosis.

About a year ago, having obtained a certain number of fowls affected with tuberculosis, he made pure cultures of the microbe; the results were identical with those mentioned above.

The bacilli of the tuberculosis of fowls constitute, then, a different species from those of common tuberculosis, though very near of kin. The recent investi-

gations of Uafucci have confirmed this conclusion. We cannot say that this new bacillus is pathogenic in mass till we have noted its presence in the human organism.

Recent researches have also shed light on the question of the relations of bacteria to the infectious diseases. When we have established that certain bacteria are found constantly in this or that infectious disease, that they are never met in any other, that they can live and be cultivated out of the animal body, and that in this state they are capable of reproducing the disease, their etiological rôle is proved. This demonstration has been made for tuberculosis, erysipelas, tetanus, and many of the diseases of the lower animals.

Per contra, the fact that we cannot reproduce with pure cultures, a disease in animals, is evidently not sufficient to prove that the particular bacillus is not the cause of the disease in man. This is the case with the bacilli of leprosy, of Asiatic cholera, of typhoid fever, of diphtheria, of typhus recurrent.

The study of the following questions has also made great progress: the parasitism of bacteria, their mode of penetration and evolution in the organism, the chemical products (tox-albumins) resulting from their activity, the combinations of several infectious diseases in the same individual, lastly, the subject of immunity. The theory of phagocytosis is, however, losing ground every day.

The study of the action of light and heat on bacteria has given us important results for prophylaxis. Solar light has a destructive action on the bacilli of tuberculosis. According to the thickness of the stratum of the culture exposed to direct sunlight, the bacilli are killed in a time varying from a few minutes to a few hours. Indirect diffused light has a like action, but more slow; cultures exposed to the daylight by a window are killed in from five to seven days.

All bacteria have need of moisture in order to develop, but they cannot quit the medium where they are growing, and are not susceptible of diffusion through the air, except under the form of dust, the product of desiccation.

Bacteriological researches have resulted in much that has been delusive, but also in much that is encouraging. The fact that we have not yet been able, despite indefatigable researches and painstaking, to discover the microorganisms of the exanthematous diseases, proves that these microbes must be sought by methods of another order. Perhaps we have to do in these diseases with microorganisms belonging not to the group of bacteria, but to that of protozoa, like those which have been found in the blood of malarious patients.

As for the practical results connected with bacteriological studies, they are already considerable. Disinfection is performed in a more judicious and effective manner. Potable waters are being examined from the point of view of their infectiousness; the same may be said of milk and other foods; of the air of school-rooms, of sewers, etc. We can now detect at

its commencement, and with almost infallible certainty, an epidemic of Asiatic cholera, and provide in time the necessary prophylactic measures. The early diagnosis of tuberculosis has been facilitated.

From the point of view of direct therapeutic utility for the individual, we can thus far only point to the preventive inoculations of Pasteur against charbon, symptomatic charbon, rabies, etc. As for rabies, it is perhaps not a bacillary disease, but the study of rabies has, at least, developed on bacteriological ground.

But we may hope that even from a therapeutic point of view, bacteriology is entering upon an important future. Much more may be expected for diseases of slow or chronic duration, than for those that run a rapid course. With respect to tuberculosis, however, all the germicide agents thus far employed have been unavailing. Koch affirms, however, that after numerous experiments he has found certain substances which are capable of preventing the development of tubercle bacilli. Among such are the essential oils, certain aromatic compounds, such as naphthol Eamine, paratoluidine; certain aniline coloring-matters, such as fuchsin, methylene blue, gentian violet, auramine; then mercurial vapors, and the compounds of silver, and especially of gold, with hydrocyanic acid. Thus, the cyanide of gold in a solution of 1 to 2,000,000 arrests the multiplication of the microbes in cultures out of the animal organism.

In animals, these substances do not avail in arresting the progress of the disease. Of late, however, Koch says that he has succeeded in finding certain compounds which have shown themselves to be prejudicial to the bacilli when given internally to tuberculous animals. Guinea pigs, which had been dosed with these substances, remained refractory to the inoculation of tuberculosis. In others, previously infected, the disease was seen to undergo retrogression.

If it should be confirmed that there are germicide agents capable of arresting the progress of tuberculosis in animals, we shall gain courage to hope for what is at present the great desideratum from applied bacteriology, the arrest or at the least the prevention of tuberculosis in man.

MEDICAL NOTES.

—The gold medal of the British Medical Association was conferred upon Surgeon Parke of the Emin Pasha Relief Expedition at the annual meeting of the association on July 21st. The recipient was given a most hearty and enthusiastic welcome by the association. Mr. Stanley, who intended to be present, was prevented by illness.

—The ordinary obstetric fee in the interior of China, according to a writer in the *Medical Missionary Journal*, is among the better classes two dollars, when the child proves to be a boy, one dollar for a girl. Among the poorer one dollar for a boy, and fifty cents for a girl.

—Virchow extended the following cordial welcome to the American delegates of the International Congress, according to the *Medical News*: "We in Germany have great admiration for the American medical world, which, to-day excels in surgery, midwifery, and dentistry. I can say for myself and colleagues, that the American contingent will be honored and heartily welcomed. We admire their scientific zeal, and begrudge them their extraordinary skill, and shall try to imitate their push and energy. I find these latter virtues in the American student as well as in the finished scientist. My German students generally spend a few semesters deciding what line of medicine they shall follow, while the American student walks into the arena with a fixed purpose, and an indomitable determination to accomplish it. This is why your men secure the laurels before their hair turns gray. My friend, Dr. H. Wood, of Philadelphia, will be the speaker for the Americans at the coming Congress. He is sure to do himself and the great city and country from which he comes, high credit."

—Among curious marital customs referred to in a recent paragraph in the *Popular Science Monthly* is that known as the *covade*, which has been a favorite subject of ridicule for centuries, consisting in the father, on the birth of his child, making a ceremonial pretense of standing in a relation to it similar to that of the mother. He is nursed and taken care of, and performs such rites as fasting and abstaining from certain kinds of food or occupation, lest the new-born should suffer thereby. This custom is known in the four quarters of the globe. How sincerely it is still accepted appears in a story of Mr. Im Thurn, who, on a forest journey in British Guiana, noticed that one of his Indians refused to help haul the canoes, and on inquiry found that the man's objection was that a child must have been born to him at home about this time, and he must not exert himself so as to hurt the infant. In the Mediterranean district the *covade* has prevailed even into modern times.

—Dr. Tyson records, in the *University Medical Magazine*, a unique and successful treatment for hysterical vomiting. A young girl, fourteen years of age, insisted that she vomited everything she swallowed, even water. Her statements were found to be true. She had every manner of treatment applied, systematically and locally, but to no purpose. She was blistered, and received strong currents of electricity to no effect, and she was finally discharged. She returned a few days after, claiming to be as bad as ever. The resident physician, knowing that all else had been tried, told her emphatically that whatever she vomited she must immediately swallow. To the surprise of all her vomiting ceased, and since this order was given she has taken every sort of food and retained it.

—The planting of eucalyptus trees for the purpose of draining the soil in malarial districts is one which has met with some success, and the British *Medical Journal* cites a new and interesting instance thereof. The Trefontane Convent at Rome had become posi-

tively uninhabitable, owing to the malaria, which attacked, in many instances with fatal results, its inmates. Senator Torelli presented a bill proposing that the estate annexed to the convent should be planted with eucalyptus as an experiment against malaria. The bill was passed, and the Trappist monks planted thousands of eucalyptus plants of all species on the estate. But still the malaria raged, and several monks suffered severely. It was, however, remarked that it was only the monks who had their cells looking on the central cloister who fell victims to the malaria. This suggested the idea of planting four eucalyptus trees at the four corners of the cloister. The plants, sheltered from the winds, soon grew to a great height. The immediate result was the complete draining of the soil in the cloister, and the disappearance of malarial fever from the convent.

BOSTON.

— The caterer who supplied Camp Philip H. Sheridan, in which were entertained nine or ten thousand of veterans during the recent Grand Army celebration in Boston, has been brought into court on complaint of Dr. Charles Harrington, inspector, for selling to the veterans adulterated milk.

— The Boylston Prize, of the Harvard University, for 1890, amounting to \$200, has been awarded to Dr. H. A. Hare, for an essay entitled, "The Uses and Value of Antipyretics in the Treatment of Fever."

— The foreman of the gang of trackmen who, while at work on the Old Colony Railroad, by leaving a jack under the rail caused the recent disaster at Quincy, has been arraigned for manslaughter, and in the preliminary examination has pleaded not guilty.

Miscellany.

ANTISEPTICS AND ANÆSTHETICS AT BERLIN.

It was evident on all sides at the Berlin Congress, remarks the *British Medical Journal*, that antiseptic, or rather aseptic, surgery is held in the very highest repute in that city. A glance at the operating theatre of any hospital — such as that of the Moabit, in which Professor Sonnenberg has charge of the surgical wards — was further sufficient to show the extreme care taken, and the lavish expenditure that had been incurred so as to render all wounds perfectly aseptic. The surgical instruments are all kept in cupboards constructed solely of glass and iron, and consequently perfectly washable throughout; the scalpels are all entirely composed of one piece of metal, a method that renders it impossible for dust or dirt to collect between the blade and handle; the operation table is constructed of one slab of light green glass about an inch thick, placed upon an iron frame, and running upon wheels with india-rubber tires; and in offices adjoining the theatre are ovens for the sterilization, by means of dry or moist heat, of everything (bandages, cotton wool, and dressings of all kinds) to be

applied to wounds, or for use during the surgical operations. The surgeon exhibited the dress worn by him during operations, which included even goloshes. In Professor von Bergmann's clinic, too, in the Ziegelstrasse, similarly minute precautions are constantly observed. But in spite of the efforts to excel by this extreme attention to the details of antisepic surgery that were everywhere observable, our contemporary expresses proper disappointment to learn that chloroform is still constantly employed for the production of general anesthesia during surgical procedures, not only in Berlin, but throughout Germany, and hopes that Dr. Horatio Wood's powerful address in favor of ether may direct attention to the compounds such as ether and the A. C. E.

INFREQUENCY OF SYPHILIS IN ENGLISH COUNTY PRACTICE.

ALFRED FREEER, President of the Birmingham and Midland Counties Branch of the British Medical Society, in a presidential address, speaks as follows of his experience with syphilis:

"I am old enough to remember M. Ricord's instructive and oft amusing lectures under the trees of the garden at the Hôpital du Midi, when he used to operate *sub die* early in the morning. At that time one could not help looking at the world through a syphilized atmosphere, and when I came to country practice I found plenty of examples of the old scourge; but for many years past I have seen less and less of syphilis, so I suppose the nymph is beginning to take up residence more exclusively in cities and large towns; or perhaps she is shy of appearing before greybeards. Her prime exhibit, the true Hunterian chancre, on which the great Ricord used to expatiate so eloquently, has almost gone from my gaze. It is a matter for national congratulation that, owing to the improvement in habits of cleanliness among the people, if not to improved morality, this disease is far less virulent than formerly, even in our large centres."

POISONING IN THE BOMBAY PRESIDENCY.

DR. COLLIS BARRY's report of the operations of the Chemical Analyst's Department, last year, in the *Indian Medical Gazette*, June, 1890, throws, as usual, an interesting side-light upon the crime of the Bombay Presidency. There were 170 cases of suspected human poisoning, and poison was detected in sixty-six cases. It is curious to notice that the long-standing preference of the poisoning class for arsenic continues, just half the cases detected last year being cases of arsenic poisoning. Opium comes next, with twenty cases; pounded glass was used in five cases, and datura in two only. Only a minority of these cases were homicidal, and in these the mixing of poison with sweetmeats seems to have been the favorite method of accomplishing the poisoner's purpose. In one case the murderer determined to employ an accredited brand, and used "Rough on Rats." Pounded glass, one of the favorite preparations of the Italian poisoners in the Middle Ages, was only ineffectually employed, for though all the cases were apparently attempts at homicide, none of them succeeded. The preparers of pounded glass, however, seem to be bun-

giers at the art. In a case at Dhulia, for instance, the intended victim at once detected the plot by the grittiness which he noticed in the bread in which the glass had been placed. In a case at Kalyan green glass, probably a crushed bangle, was put in some rice, but the victim noticed the green particles before eating his food. At Nasik a woman confessed to having pounded her bangles and put the dust in her husband's food.

THE TREATMENT OF PSEUDO-MEMBRANOUS LARYNGITIS BY MERCURIAL FUMIGATION.

A PAPER on the above subject, by Dr. George E. Law, in the *Brooklyn Medical Journal*, August, 1890, gives the favorable experience of the author in this mode of relieving laryngeal stenosis in croup. He believes it will often obviate the necessity of operative interference. The method of its application is thus described:

The apparatus consists of a tent, and an alcohol-lamp with arms, to support a piece of sheet-iron. A good tent may be quickly constructed in the following manner:

"Each post of a child's crib is extended by fastening to it in an upright position a bed-slat. The frame is completed by cross-pieces above. Sheets to cover the frame complete the tent. The child is placed in the crib at one end, the lamp is lighted, the sheet-iron plate is adjusted and heated, and thirty grains of calomel are dropped upon it. The lamp is then placed under cover at the end not occupied by the child. The vapor quickly rises and fills the tent. The usual time of each treatment is ten minutes, but may be varied if circumstances indicate.

"The attendants should be cautioned not to inhale the fumes unnecessarily, as mercurial poisoning is quite certain to result. In the patient, however, this effect does not follow.

"The temperature and humidity of the room should be as with any other treatment in the same disease. It is well to have the use of two rooms, reserving one to be used only while the treatment is in progress, and thoroughly airing it after using.

"Usually at first the treatment should be repeated every two hours, increasing the interval as the period of relief extends. If the patient is weak it is well to give a stimulant before treatment.

"The prompt relief of stenosis he supposes to be due, partly at least, to the relaxation caused by the treatment, just as we see relief follow an emetic in membranous croup, even if no membrane is expelled. The cure is due both to the local and to the constitutional action of the drug."

ANTISEPTIC CEMENT FOR PROMOTING BONY UNION.

THE Berlin correspondent of the *Therapeutic Gazette* (August 15th) writes of Prof. Thomas Gluck, the newly elected director of the Children's Division of the Kaiser and Kaiserin Friedrich's Hospital, and of the methods of promoting the union of bony surfaces, by means of an antiseptic cement.

The cement has been used by Professor Gluck to unite the smooth or rough ends of bones to each other. The serrations are touched with the thermocautery at a white heat, and the cement, being spread

upon the opposed surfaces, the two ends are then united as quickly as possible. This cement becomes as hard as glass in about two and a half minutes after cooling. Moreover, it can be used not only as a method of uniting bones, but also for packing cavities in them, and it is thus possible to cement a foreign body into the substance of a bone with perfect safety. If, later on, this antiseptic cement forms a hard ring at the point of union, it will behave just like any other trivial osseous enlargement, but with this fundamental distinction, that it is called upon to play an important part in definitely contributing towards forming the fixity of the would-be joint, and also that this immobility is obtained in a careful and systematic manner. In fourteen cases of joint-disease, in which resection was indicated, Professor Gluck has, as a rule, resorted to this method by invagination. In each instance the apparatus has been rendered antiseptic, and recovery has been obtained without inflammation. We have, moreover, to mention in these cases the absolute freedom from pus in the parts concerned, under antiseptic treatment; the perfect immobility of the union; the immediate recovery of the original length, as well as the nearly natural subsequent growth of the limb, which is always so desirable in orthopedic operations. In addition to the safe union of such foreign bodies, as the ends of different bones, this method allows every conceivable mode of treatment, and the use of any apparatus, as well as its own applicability to troubles in all parts of the body, whether resulting from diseases of the osseous system, dislocation, or ununited fractures.

TREATMENT OF OBESITY.

PROFESSOR HEINRICH KISCH gives the following principles as those which govern his practice at Marienbad in the treatment of obesity (*Therapeut. Monatshefte*, No. 5, 1890, and *Practitioner*, August, 1890):

(1) The avoidance of superfluity in the ingestion of food, — it is desirable that there should be a decrease of *quantity* to an amount smaller than what the patient was accustomed to, but yet inside the lines within which the body can be sustained. In plethoric individuals, 160 grammes albumen are given, 10 grammes fat, and 8 grammes carbohydrates; and in anemic patients, 200 grammes albumen, 12 grammes fat, and 100 grammes carbohydrates. There may be three or four meals daily at fixed hours, but nothing in the intervals.

(2) As to the *quality*, the principal point is a full protein meal, corresponding to the nutrition and condition of life of the individual, and having regard to his age, stature, occupation, and habits, with a moderate amount of carbohydrates, and the fat reduced to a minimum.

(3) Ingestion of fluid is not limited; particular drinks are allowed according to need, only during meal-times little or nothing ought to be drunk. To lessen thirst and encourage diuresis, the use of alkaline carbonate waters is advised. Anemic patients should drink less water than plethoric people, and the same remark applies to those with cardiac insufficiency.

(4) Bodily movements must be methodically carried out, for example, exercises, walking, mountain-climbing, with particular care as to the existence of

fatty heart. By these means the mental condition may be improved.

(5) Sleep should be curtailed to six or seven hours by night; and sleeping by day, especially after meals, is forbidden.

(6) Stimulation of tissue-change is secured by a bath of average temperature and cold rubbing; where no vascular disease, vapor baths followed by cold friction may be permitted. The bowels should move regularly and in sufficient quantity daily.

The following diet table is carried out at Marienbad by Professor Kisch's patients: In early morning, five to six o'clock, three to four glasses of Marienbad water; then a walk through the wood for one or two hours; after which, *breakfast*—cup of tea or coffee with one tablespoonful of milk; without sugar, some biscuit, a little cold lean meat (roast beef or veal) or ham deprived of fat; no butter. Between 10 and 11 A.M., a Marien-spring bath, with the addition of soda, for fifteen minutes, after which, cold rain douche; then an hour's walk and one glass of the Wald-spring with lemon-juice. Where the heart is intact and powerful, and no arterio-sclerosis, a vapor bath with a cold rub down following, may be allowed twice a week. *Dinner*, between one and two—no soup, or one of thin, not fat, beef juice without addition of barley, sago, bread, etc.; roast lean meat, beef, veal, food without sauce, having vegetables, spinach, cabbage, cauliflower, bread-crust; and for dessert, a little fresh fruit. Forbidden are goose, duck, pork, carp, salmon, herring, puddings, potatoes, butter, cheese, sweet preserves, cream and ices. As a drink, one wine-glassful of good light wine may be given, the best time being an hour after meals; no beer, no champagne, no liquor. Walking exercise for three hours; then one cup of coffee or tea without sugar or milk; and about 6 P.M., a glass of Marienbad water. *Supper*, about seven or eight o'clock—100 to 200 grammes of roast meat, cold roast, or lean ham, and a little bread-crust. A walk for one hour after. Before bed-time, cold sponging of the body.

PAVY ON THE TREATMENT OF DIABETES.

DR. F. W. PAVY read an article on the subject at the recent meeting of the British Medical Association, which, while not advancing any novel theory, presents clearly and with the authority which the writer has been conceded to have on the subject, the reasons for, and the importance of, the dietetic treatment of the disease. After speaking of the function of the normal liver in intercepting sugar from entering the general circulation, he says:

"Sugar reaches the general circulation in a manner that it ought not, and to its presence in the system are due the various symptoms belonging to diabetes. Through reaching the general circulation it becomes eliminated by the kidney and is lost. The disease thus involves a sacrifice of material which ought, by rights, to be turned to account, but this is a point that has but little bearing on the production of the phenomena that are observed in connection with the disease. If it were only a question of waste of the carbohydrate principles of food, there would be no reason against their being taken and allowed to run off. Provided a sufficient amount of other alimentary principles were consumed to meet the requirements of life,

no particular harm need arise from the sacrifice of the material occurring. What, it may be said, in reality inflicts the harm, is the altered constitution of the blood, occasioned by the presence in it of the sugar which passes through the system to the urine. In proportion to the largeness of the amount of sugar thus traversing the system in the blood, so will be the extent of deviation from the natural state, and so in correspondence the impairment of health that will be found to exist.

"The class of cases to which these remarks apply is that in which the discharge of sugar is susceptible of control by treatment, and the class embraces the majority of the cases in which the disease sets in after the middle period of life.

"As long as the passage of sugar through the system is prevented no harm takes place. In the course of all my experience in diabetes I have never known anything serious to arise as a part of the disease so long as the urine has been kept free from sugar. There is nothing, in fact, to form the source of trouble, seeing that there is not the abnormal presence of sugar in the circulation to occasion deviation from the healthy state. On the other hand, when sugar is passing through the system, and the remark applies in proportion to the amount passing through, not only are there to be observed the symptoms ordinarily consequent thereon, but a constant state of insecurity exists, from the danger of the supervention of the serious issues known to follow upon the disease. Moreover, with the unnatural state occasioned by the presence of sugar, nutritive action is not carried on in such a manner as to properly maintain the general strength. As a consequence, the general power becomes sapped and prematurely exhausted, and the system weakened and rendered less able to resist the effect of pernicious influences. Such is not the position when sugar is not similarly traversing the system. Indeed, there is nothing to render the state essentially different from that ordinarily existing.

"The contrast between the two conditions—that is, where sugar is allowed to abnormally exist in the system, and where it is prevented from doing so—is well shown in cases where the disease has run on for some time without being recognized, and is subsequently controlled by dietetic treatment. What will be observed in such instances will be a gradually advancing impairment of health and increasing severity of the symptoms of the disease, and it is right to assume that progress in the same direction would run on, and the patient grow worse and worse, if the condition continued to be left to itself. Whilst matters are thus proceeding it happens, say, that the existence of the disease becomes recognized, and, if the case be such that the sugar is susceptible of being removed from the urine by the exclusion of the carbohydrate principles from the food, and this exclusion be carried out, this alone will suffice, not only to check the downward progress occurring, but to bring back health and strength to the patient.

"The first consideration, therefore, in the treatment is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at, is to restore the assimilative power over the carbohydrate elements of food, and until this has been accomplished it cannot be said that a cure has been effected, but only that the disease is held in subjection, and prevented, as long as the condition can be main-

tained, from leading on to an unfavorable issue. What most conduces to this desired restoration of assimilative power is the maintenance of a normal state of the system by keeping it free from the passage of sugar through it, and in this way bringing a healthy condition of body to bear in helping to promote a removal of the faulty state.

"According to my own experience, opium and its derivatives, codeine and morphine, are the medicinal agents which, more than any others that I know of, assist in the actual cure of the disease, by which I mean a restoration of the assimilative power which has been impaired.

"The influence of these agents may be witnessed in cases where the sugar has been brought down by diet to a certain point, but is unsusceptible of entire removal from the system by dietetic treatment alone. The complete removal may then be sometimes observed to follow the subsequent administration of the drug, showing that the medicinal agent has acted in the direction of exerting a restraining influence over the abnormal production and elimination of sugar."

Correspondence.

[Special Correspondence.]

THE BERLIN INTERNATIONAL MEDICAL CONGRESS.

BERLIN, August 10, 1890.

MR. EDITOR:—If Sterne was right in thinking that things were "done better in France" in his day, the friendless and tongue-tied stranger and foreigner who arrived at Berlin, a new-comer to the great "medical roundup," would agree that the German principle that every traveller is to be looked upon as a child and in need of being led by the hand has its advantages.

We in America are fond of thinking that every able-bodied man can find his way anywhere, and is a fool if he wants a guide other than a sign-board, and it is a new sensation to be watched like a sheep whose natural inclination is to break from the lead,—in fact an Anglo-Saxon can not escape a slight spirit of rebellion if he is firmly though kindly prevented from making an exit where his entrance was; but his reason triumphs over his individualism, if he uses a slight amount of reflection. In short, nothing could be more excellent than the arrangement for registration and delivery of tickets, which is always an annoyance, and in a congress of 3,000 might be a matter of no little difficulty. And when the central organization attempts the banking business of supplying money for the delegates on letters of credit, and changes his foreign money for him, the practical American admits that he is the personal debtor to the members of the committee for their trouble-saving arrangements. He feels that he can anticipate from such excellent preparations at least a feast of reason, even if a flow of soul does not fall to his lot as a stranger.

The opening ceremonies were on the whole as dignified as could be desired, and the presence of a large number of uniforms and orders gave to the spectacle a brilliancy particularly pleasing to an American, accustomed at home to the undramatic garb of the visiting doctor, however distinguished, on such occasions.

Professor Virchow wears his years very lightly, and showed little age in his extremely long opening address, which glorified the city of Berlin for the amount of money spent on sanitary matters in a way which reminded the American of the Fourth of July address of his boyhood. The facts, however, undoubtedly deserve glorification; but the fervid heat of August does not make an audience of 3,000 sympathetic to a detailed statistical recital of the

number of million of marks expended. The welcome extended to Sir James Paget, if one can judge by the hearty enthusiasm of applause in an unusually undemonstrative audience, bespoke a tribute to a character which, in purity and rectitude as well as in ability, has made itself widely felt in a day when self-assertion has too often claimed undue prominence. The welcome of a hearty applause greeted the announcement that 500 delegates had arrived from the United States. The fact is certainly a noteworthy one, and to be explained on the theory that the American doctor is particularly eager for knowledge, or is prosperous, or is fond of travel, according to the patriotic optimism of the theorizer or his pessimism.

The congress drew delegates from China and Japan and from Russia, so that it may fairly claim to be international, probably more so than any previous congress.

The honors given to Lister of the opening scientific paper were fully deserved, but it can hardly be said that he was equal to the occasion,—an occasion, be it said, which might tax the oratorical ability of the greatest of speakers.

The disadvantages of so unwieldy a congress in numbers was quite apparent on the first day, as soon as the surgical section attempted to visit Bergmann's clinic; but although it was difficult to obtain much information as to the aseptic methods by actual observation owing to the crowd, a paper with aseptic details and rules carefully printed was distributed freely, and, it may be hoped, will be carefully read and copied in every surgical hospital in the world. The methods of antiseptic surgery formerly employed in the clinic have been followed by thorough aseptic methods. All cloths, towels, sheets, etc., which come in contact with the patient are thoroughly sterilized before operation by steam heat, and kept clean; in short, nothing touches the patient which is not perfectly clean. The dressings used are also sterilized, and the details of aseptic surgery are strictly carried out in all operations; but antiseptic preparations and washes are not used in simple operations on aseptic cases.

Bergmann, in appearance, fully justifies his position as leading German surgeon,—slightly above the average height, he is of a broadly-built figure, and, though of a darker complexion than is usually seen in North Germany, has that tendency to corpulence peculiarly national which betokens a plenty of attention to German living, and that mental content which comes with the honor of Geheimerath. To see Bergmann kiss Ollier on the cheek in token of professional brotherhood is intended to stir the enthusiasm of the surgeon, who is to believe that there is but one nation, and that is Science, which looks down on the petty brawls of cabinets,—all of which, however, would be more inspiring if one had not the feeling, true or otherwise, that the action of the Geheimerath and of the German committee were at the instance of the present ministry, and was something like the action of our politicians in behalf of the poor soldier, or the tariff after the National Republican Committee had thought the matter over.

Horsley is said fairly to have won honors in the congress by his perfect demonstration and his remarkable experiments.

Oppenheim reports a case of successful removal of a sarcoma of the brain three months ago, on a woman who a month ago gave birth to a healthy full-term child.

Although the Americans were numerous and were kindly received, it cannot be said that they won as great distinction as was granted their *confrères* from England or France. Dr. Billings certainly deserves to be placed in the front rank of distinguished men. But if few Americans of great distinction visited Berlin, the American representatives were numerous as well as observing and alert; and to few nations will the benefit of the congress be greater than to the United States, whose profession is particularly ready to adopt suggestions, and there were many.

The exhibition given under the auspices of the Congress

was well worth careful study, and full of objects of interest. The inevitable beef-essence exhibition was not absent; and the patent bath-tub, medical appliances, etc., were decidedly below the standard of ingenuity and workmanship which is often seen in the American Medical Association. But in extent, variety, good selection, etc., the exhibition left little to be desired. What at least may be called a surgical novelty was the exhibition of a number of cases by Gluck, who certainly deserves the palm for bold surgical experimentation on human subjects.

At the exhibition a skeleton was shown, with ivory joints inserted at the wrist, knee and hip, and in a number of the smaller joints, and also an ivory vertebra to replace the second dorsal vertebra. The skeleton attracted little attention, except as showing a surgical nightmare; but when it was known that Herr Gluck would show a certain number of living patients wearing ivory joints, curiosity and interest were naturally excited, and the little operating room in Ziegel Strasse, which is attached to Gluck's Polyclinic, was crowded by many distinguished surgeons of different nationalities, to see this exhibition of surgical fireworks. It seems incredible; but the truth remains that Gluck showed a patient on whom, nine weeks before, he had not only excised a knee for tubercular disease, but inserted an ivory joint, driving the free ends of the articulated pieces of ivory three or four inches into the medulla of the shafts of the femur and tibia respectively. Motion at the knee was free and painless, but the patient had not been allowed to walk. A few other cases of excision of the wrist, the shaft of the humerus, and the knee were also shown, on whom the same method had been employed; also a piece of ivory that had been worn for some time in the humerus of a dog.

Gluck's idea evidently is, that if small ivory plugs are absorbed, large ones will not be; and if these are, he promises to use aluminum. He seems to have overlooked, so far, the future necessity of oiling the joints; but that, of course, may be regarded as a trifling detail, although the whispered suggestion of this fact to an open-mouthed, horrified English surgeon who was inspecting the case, nearly caused apoplexy.

Criticism is naturally silent before surgery of this sort. One simply bows to the boldness of the experimenter who is not bound by tradition or fear of suits for malpractice, which must be few in Berlin.

Time and space prevent any allusion to the hospitality in Berlin; but one will venture to hint that the mammoth *Kneipe* at the *Rathaus*, offered by the city of Berlin in the harmless guise of a reception, will be remembered by the visiting physicians when Virchow, Koch, Bergmann and other great men are long forgotten. Certainly, our junketing aldermen and councilmen would admit that, in their palmiest and most riotous days, they are but pygmies in comparison with the city government of Berlin. A fervid imagination could not equal the reality. Certainly, in this respect, "they do these things better in Germany."

CRANIECTOMY FOR MICROCEPHALIC CRETINISM.

WAVE CREST, N. Y., August 28, 1890.

MR. EDITOR: — Another "ectomy" has just been added to the still broadening stream of new procedures in legitimate surgery. Strange to say, in this instance, it is not a novel abdominal excision that is heralded to mark the new era. All the eggs in that basket have already been hatched — some of them pretty poor eggs, too.

We all know, in these days of our waning century, that a mere enumeration of the contents of the artful belly, with the obligatory "ectomy" hitched on regardless of etymological propriety, will suffice as an index of operations which the abdominal surgeon or, for short, "subdiaphragmatic chirurgeon," is ready to perform at all hours of the day or night, while you wait. With rare cunning, the envious Frenchman, perceiving that the Teuton had exhausted the

resources of abdominal "ectomies" and "ectotomies," has suddenly shifted the scenes. And behold, ye men of the gizzard, the head (which in man is sometimes placed above the stomach) will now come in for a tardy share of our all-popular "ectomies." The Gallic bugle already sounds, in unmistakable notes, the latest triumph of her surgery. Says the *Union Médicale* of recent date, "French surgery, which has been accused of being behind that of other nations, from time to time, still demonstrates its leadership."

In proof of this assertion, the journal proudly says (see the communication just made to the Paris Academy by Professor Lannelongue, who has successfully craniecomized two microcephalic French idiots), "Cranieotomy marks immense progress in the treatment of an affection hitherto considered as incurable. Until now," continues the *Union*, "we had to content ourselves with putting the unfortunate microcephalic idiots in asylums. But M. Lannelongue has thought that we could do better. The mental condition of microcephali has been justly attributed to incomplete encephalic expansion, due to premature closure of the cranial sutures. To remedy this evil, the bony box enclosing the brain must be made larger, in order to permit cerebral expansion."

Putting into practice this theoretically perfect reasoning, an idiotic child was selected, an incision made over one parietal bone, a slice of the latter removed (five inches long by one and a half inches wide), the cutaneous wound closed, an antiseptic dressing without drainage applied, — and the thing was done. Unlike most first trials, the operation under discussion was entirely successful, even in that minor matter of modern cuttery, the preservation of previous vitality on the part of the patient. The particular child in question not only lived, but it soon showed signs of unmistakable intelligence, such as biting people's thumbs, and other playful pranks that only doting parents fully fancy.

Encouraged by his success, Dr. Lannelongue craniecomized a second idiot. But we are told that sufficient time has not yet elapsed since the performance of the operation to accurately gauge this baby's mental caliber. But his condition is, at least, promising; and he will probably live to put many an uncraniecomized infant to shame by posing as a professional prodigy when his *confrères* still babble in that orthodox "silliness supreme" so characteristic of merely natural babies.

The parting injunction of the *Union Médicale* will please be heeded: "When, in future, admirers of foreign surgery again make unfair comparisons, we beg them not to omit giving us [the French] credit for cranieotomy." It is to avoid the possibility of such rank injustice that this early notice of the operation is given to your readers.

EDMUND CHARLES WENDT, M.D.

SOCIETY NOTICE.

AMERICAN ORTHOPEDIC ASSOCIATION. — The Fourth Annual Meeting will be held at the College of Physicians, Thirteenth and Locust Streets, Philadelphia, September 16, 17 and 18, 1890.

Tuesday, September 16.

Morning Session. Address by the President. Spinal Distortions and their Treatment by the Straightened Leather Jacket, Dr. Bernard Bartow, Buffalo. Treatment of Deformities of Spastic Paralysis, Dr. E. H. Bradford, Boston. Tenotomy for Relief of Deformity in Spastic Paralysis, Dr. Arthur J. Gillette, St. Paul. Amputation as an Orthopedic Measure, Dr. Ap. Morgan Vance, Louisville.

At 1 P. M. Members of the Association are invited to inspect the Presbyterian Hospital, Thirty-ninth and Market Streets; take Walnut or Market Street cars to Thirty-ninth Street. After which lunch will be served.

Afternoon Session, in the amphitheatre of the hospital, or at the Presbyterian Hospital. A Ready Method of Counter Traction at the Knee, Dr. Henry L. Taylor, New York. Treatment of Infantile Club-Foot, Preliminary Operation, Dr. F. H. Miller, New York (by invitation). Paralytic Club-Foot, Dr. W. E. Townsend, New York. Ten Years' Experience in the Management of Knee-Joint Disease, Dr. V. P. Gibney, New York. The Inefficiency of Mechanical Treatment in Spasmodic Wry Neck, with a report of three cases, Dr. George W. Ryan, Cincinnati. Sacro-Iliac Disease, Dr. Benj. Lee, Philadelphia. Instantaneous Photograph, illustrating the gait of a child from whom both hips had been removed, Dr. H. M. Sherman, San Francisco.

Wednesday, September 17.

This day will be devoted to the subject of *Rotary Lateral Curvature of the Spine*. The following papers will be read, after which there will be a general discussion of the subject.

Morning Session. — The Normal and Abnormal Elements in the Causation of Idiopathic Curvature, Dr. Benj. Lee. The Muscular Element in the Etiology, Dr. Chas. L. Scudder. Etiology, Dr. R. W. Lovett. Mechanism of Rotation, Dr. A. B. Judson. The Mechanical Theory, Dr. O. H. Allis (by invitation). Causes, Dr. M. T. Biessel (by invitation).

At 1 P. M., after adjournment, the Association is invited to inspect the Orthopedic Hospital, Seventeenth and Summer Streets, after which lunch will be served.

Afternoon Session. Pathogeny, Dr. Newton M. Shaffer. Treatment Especially Applicable to Poor and Dispropitious Patients, Dr. V. P. Gibney. Treatment, Dr. E. H. Bradford. Treatment, Dr. B. E. McKenzie. Treatment, Dr. Henry Ling Taylor.

Thursday, September 18.

Morning Session. The Significance and Value of Involuntary Muscle Protection in the Lives of the First Apparient Stage of Hip Disease, Dr. Newton M. Shaffer, New York. Treatment of Hip Disease, Dr. B. E. McKenzie, Toronto. A Report of Sixty-two Cases of Hip Disease observed in the practice of Hugh Owen Thomas, Dr. John Ridlon, New York. Diseases of the Eye associated with Spinal Caries, Dr. James K. Young, Phila-

delphia (by invitation). Posterior Rachitic Curvature of the Spine, Dr. Samuel Ketch, New York. From the Pennsylvania Hospital, Eighth and Spruce Streets, after which lunch will be served, by the invitation of Benjamin Lee, M.D., at 1.30 P. M., at his residence, 1532 Pine Street, when an opportunity will be offered to inspect his Orthopedic Gymnasium.

Afternoon Session. Lateral Deviation of the Spinal Column in Pott's Disease, Dr. R. W. Lovett, Boston. Relief of Paraparesis, Dr. A. J. Steele, St. Louis. Prognosis of Pressure Paralysis, Dr. T. Halstead Myers, New York. Do Orthopedic Surgeries Operate as Frequently as they Should? Dr. J. E. Moore, Minneapolis. Joint Diseases, Dr. John Ridlon, New York. Papers (titles not sent), by Drs. T. G. Morton, Roswell Park, and Associates.

Members are invited to visit the Presbyterian Hospital, Thirty-ninth and Market Streets; the Orthopedic Hospital, Seventeenth and Summer Streets; University Hospital, Thirty-fourth and Spruce Streets; Children's Hospital, Twenty-second, below Walnut Street; Pennsylvania Hospital, Eighth and Spruce Streets; White Cripple's Home, Forty-fourth Street and Baltimore Ave., and the Colored Cripple's Home, Forty-third and Wallace Streets.

GEO. W. RYAN, M.D., Recording Secretary and Treasurer,
114 West Ninth Street, Cincinnati.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 23, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	751	352	28.08	12.74	2.08	19.11	1.36
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,061,277	415	180	19.92	12.72	2.64	12.48	3.36
Brooklyn	852,467	—	—	—	—	—	—	—
St. Louis	580,000	137	58	6.57	8.03	2.19	—	2.92
Baltimore	500,343	141	69	26.98	12.07	5.68	12.07	3.55
Boston	418,110	200	92	30.50	9.00	2.50	23.50	3.00
Charleston	200,000	94	55	22.36	10.60	10.60	9.54	2.12
New Orleans	210,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	83	40	33.60	7.20	3.60	20.40	7.20
Nashville	68,513	33	14	39.39	3.03	—	27.37	9.08
Charleston	60,145	31	14	22.61	9.69	—	12.92	3.23
Portland	42,000	15	7	33.33	13.33	—	33.33	—
Worcester	81,622	30	12	36.66	3.33	—	29.99	—
Lowell	73,370	36	18	44.44	8.34	—	36.14	5.86
Cambridge	67,026	29	15	51.75	3.45	—	48.30	3.45
Fall River	64,082	33	14	30.30	15.15	—	24.24	—
Lynn	55,200	22	15	47.85	4.35	—	33.33	—
Springfield	41,200	17	8	41.18	—	—	36.28	—
Lawrence	41,058	20	14	30.00	6.50	—	27.60	—
New Bedford	38,218	21	13	47.60	9.52	—	47.60	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	33,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,242	21	12	28.56	4.76	—	19.04	—
Chester	28,781	13	7	15.38	7.69	—	7.69	—
Haverhill	27,124	14	6	28.56	7.14	14.28	14.28	—
Taunton	25,544	9	5	33.33	—	—	33.33	—
Gloucester	24,304	9	7	55.55	11.11	—	55.55	—
Newton	22,011	3	2	33.33	33.33	—	33.33	—
Malden	20,615	7	4	57.12	14.28	—	28.57	—
Waltham	17,988	10	5	30.00	—	—	10.00	—
Fitchburg	17,049	3	2	66.66	33.33	—	66.66	—
Arlington	15,954	—	—	—	—	—	—	—
Pittsfield	15,762	5	—	60.00	20.00	—	40.00	—
Quincy	14,114	29*	8	6.90	—	—	6.90	—
Newburyport	13,915	9	1	22.22	—	—	22.22	—
Woburn	13,080	—	—	—	—	—	—	—

Deaths reported 2,260; under five years of age 1,068; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 616, consumption 242, acute lung diseases 130, diarrhoeal diseases 409, diphtheria and croup 60, typhoid fever 57, whooping-cough 37, malarial fever 20, scarlet fever 16, cerebro-spinal meningitis 10, erysipelas and pyrexia 10, fever 10.

From whooping-cough, New York 16, Philadelphia 9, Baltimore 4, Salem and Waltham 2 each, Washington, Lowell, Lawrence and Chelsea 1 each. From malarial fevers, New York 7, Philadelphia and Baltimore 3 each, Charleston 2, Nashville and Fall River 1 each. From scarlet fever, New York 4, Philadelphia 3, Worcester 2, St. Louis, Malden and Pittsfield 1 each.

* Twenty-one deaths by railroad accident; one, under five years of age, not included in the number returned as under five.

From cerebro-spinal meningitis, Lynn 4, New York 3, St. Louis, Baltimore, Boston and Washington 1 each. From puerperal fever, Boston 1. From erysipelas, Boston 1.

In the twenty-eight great towns of England and Wales with estimated populations of 9715,359, for the week ending August 9th, the death-rate was 19.2. Deaths reported 3,078: infants under one year 1,230, diarrhoea 40, measles 152, whooping-cough 60, scarlet fever 50, diphtheria 34, fever 25.

The death-rates ranged from 14.3 in Blackburn to 28.3 in Preston, Birmingham 20.1, Bradford 17.6, Hull 14.4, Leeds 19.5, Leicester 19.3, Liverpool 21.6, London 18.8, Nottingham 14.5, Sheffield 24.4, Sunderland 17.6.

In Edinburgh 17.5, Glasgow 19.4, Dublin 18.6.

The meteorological record for the week ending Aug. 23, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.		Direction of Wind.	Velocity of Wind.	State of Weather.*	Rainfall.
		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.				
Saturday, Aug. 23, 1890.	Daily Mean.	68.0	85.0	60.0	83	82	S.W.	S.W.	8.00 A. M.	
Sunday... 17	68.11	86.0	85.0	60.0	83	82	S.E.	4	8.00 P. M.	O.
Monday... 18	68.13	70.0	75.0	65.0	83	82	S.E.	9		O.
Tuesday... 19	68.16	61.0	59.0	52.0	94	93	S.E.	5		T.
Wednesday... 20	68.09	70.0	75.0	66.0	93	76	S.E.	11		C.
Thursday... 21	68.00	69.0	75.0	62.0	77	75	S.E.	6		O.
Friday... 22	68.07	72.0	80.0	65.0	78	71	S.E.	10		C.
Saturday, 23	68.31	62.0	63.0	52.0	92	97	N.E.	12		R.
Mean for Week.										0.16

*O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 30, 1890.

A. A. HOCHLING, medical inspector. In addition to present duties, ordered as President of Medical Examining Board at Philadelphia, convened by Department's order June 9, 1890.

R. M. KENNEDY, assistant surgeon. In addition to present duty, ordered as member of the above Board.

F. N. OGDEN, passed assistant surgeon. In addition to present duty, ordered as member of the above Board.

WALTER A. McCLELLAN, surgeon. Granted a month's leave of absence from September 1st.

EDWARD KERSHNER, surgeon. Granted two weeks leave of absence from September 1, 1890.

AN ARMY MEDICAL BOARD

Will be in session in New York City, N. Y., during October, 1890, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October 1, 1890, for the necessary invitation, stating their date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of services in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a Regular Medical College, as evidence of which his Diploma must be submitted to the Board.

Further information regarding the examinations may be obtained by addressing the Surgeon General U. S. Army, Washington, D. C.

J. H. BAXTER, Surgeon General U. S. Army.

BOOKS AND PAMPHLETS RECEIVED.

Recent Developments in Massage. By Douglas Graham, M. D. Boston, Mass. Reprint. 1890.

The Hypnotic State of Hysteria. By William C. Kraus, M. D., Buffalo, N. Y. Reprint. 1890.

Seventh Annual Report of the Superintendent of Health of the City of Providence, for the year ending December 31, 1888.

A Classification of Intra-Nasal and Naso-Pharyngeal Diseases. By Lennox Browne, F.R.C.S., Ed. Reprint. London: 1890.

Lectures on Some Points in the Treatment and Management of Neuroses. By E. C. Seguin, M. D., Providence, R. I. Reprint. 1890.

Varicocele. By Thomas W. Kay, M. D., Scranton, Pa. Ex-Surgeon to the Johanniter Hospital at Beyrouth, Syria. Reprint. 1889.

Concussion of the Spinal Cord, Brain, etc. By B. A. Watson, A. M., M. D., Surgeon to the Jersey City and Christ Hospitals, Jersey City, N. J. Reprint. 1890.

A Historical Sketch of Surgery, Ancient, Medieval and Modern. By B. A. Watson, A. M., M. D., Surgeon to Jersey City and Christ Hospitals. Reprint. 1890.

An Analysis of some of the Ocular Symptoms Observed in So-called General Paralysis. By Charles A. Oliver, M. D., Philadelphia, Pa. Reprint. 1889.

The Physicians' Leisure Library, Number 6. Intestinal Diseases of Children. In two volumes. By A. Jacobi, M. D. Detroit: George S. Davis, 1890.

I. Case of Corneal Transplantation from the Rabbit's to the Human Eye. II. A Singular Case of Injury. By William F. Smith, M. D., Chicago. Reprint. 1890.

The Sewerage of Columbus, Ohio. Address of Colonel George E. Waring, Jr., at Board of Trade Auditorium, Columbus, O. Monday Evening, June 23, 1890, and Discussion Following.

Structure of the Rectum, a study of ninety-six cases. By Charles B. Kelsey, M. D., New York. Professor of Diseases of the Rectum at the New York Post-Graduate School and Hospital, etc. 1890.

Cleiotomy: This, and not Laparotomy is the Proper Greek Synonym of "Abdominal Section," Laparotomy being an Incision of the Flank only. By Robert P. Harris, A. M., M. D., Philadelphia: 1890.

Transactions of the New York State Medical Association for the year 1888. Vol. vi. Edited for the Association by Edw. K. Dunham, M. D., of New York County. Concord, N. H.: Republican Press Association. 1890.

Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie. Compte rendu du service des enfants idiots, épileptiques et arrières de Bicêtre, pendant l'année 1889. Par Bourneville. Sollier et Pilliet. Paris: Publications du Progrès Médical.

Transactions of the American Dermatological Association at its Thirteenth Annual Meeting, held at the Boston Medical Library, Boston, Mass., on the 17th, 18th, and 19th of September, 1889. Official Report of the Proceedings by the Secretary, George H. Tilden, M. D.

The Essentials of Medical Chemistry and Urinalysis. By Samuel E. Wordy, A. M., M. D., Professor of Chemistry and Public Hygiene, etc., in the Kentucky School of Medicine. Third edition. Revised, enlarged and illustrated. P. Blakiston, Son & Co., Phila.: 1890.

Irregularities of the Teeth and their Treatment. By Eugene S. Tait, M. D., M. S. S. Professor of Dental Surgery in the Women's Medical College, Chicago, etc. Second edition. Revised and enlarged, with 234 illustrations, 169 of which are original. Phila.: P. Blakiston, Son & Co.: 1890.

Lectures on Massage and Electricity in the Curative Treatment of Disease. By Thomas Stretch Dows, M. D., Fellow of the College of Physicians, Edinburgh: Formerly Physician, Superintendent Central London Sick Asylum; Author of Surgical Handicraft, a Manual of Surgical Manipulations, Minor Surgery, etc.

A Treatise on Massage, Theoretical and Practical: its History, Mode of Application and Effects. Indications and contra-indications, with results in over 1,500 cases. By Douglas Graham, M. D., fellow of the Massachusetts Medical Society, etc. Second edition. Revised and enlarged. J. H. Vail & Co., New York: 1890.

Saunders' Question Compendia, No. 14. Part I. Essentials of Refraction and the Diseases of the eye. By Edward Jackson, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Part II. Essentials of Diseases of the Nose and Throat. By E. Baldwin Gleason, S. B., M. D., Surgeon in charge of the Nose, Throat and Ear Department of the Northern Dispensary of Philadelphia, etc. With 118 illustrations. W. B. Saunders. Phila.: 1890.

Original Articles.

TWO CASES OF LAPAROTOMY FOR TUBERCULAR PERITONITIS.¹

BY LEONARD WHEELER, M.D., OF WORCESTER.

CASE I. C. K. was seen first in consultation with Drs. Homer Gage, of Worcester, and Gifford, of Leicester. We agreed in the diagnosis of tubercular peritonitis, and advised admission to the City Hospital for laparotomy.

August 6th, 1889, he was admitted to the service of Dr. Rich, by whose kind consent I include this case with my own. He was seventeen years old, single, operative. Family history negative. Habits alcoholic. Had always been perfectly well up to three weeks before entrance, when he was seized with pain in the bowels, which gradually grew worse. He kept about his work for several days, and was then obliged to go to bed. Abdomen had increased in size until at time of entrance it was very full and tense. Appetite was gone; there had been some vomiting. Bowels inclined to constipation. The abdomen was everywhere tympanic, there was no ascitic wave, it was but slightly tender, there were no hard masses. Temperature 100°; pulse 100; urine and chest examination negative.

August 8th. Etherized; laparotomy by Dr. Rich; median incision below umbilicus, four inches in length. Upon opening the peritoneum, clear straw-colored ascitic fluid escaped to the amount of a few pints. The peritoneum was studded with small nodules. Light adhesions were general. These were not extensively disturbed, but the cavity washed out as well as possible with a weak bichloride solution, 1-5,000, followed by a 1-16 boroglyceride solution. A large rubber drainage-tube was left in. The peritoneum was closed with catgut, and the remaining parietes with silk sutures. Dry iodoform and bichloride gauze dressing.

The tube was removed the next day; sutures taken out at the end of a week. Union was complete, except the drainage opening. One stitch had suppurred, and through this opening there was some drainage, the fluid containing now flakes of lymph and becoming darker colored.

As to the condition of the patient, it seemed at first a little improved, but in a few days he began to lose ground steadily again. The abdomen refilled. At the end of a month it was again opened. There were firm adhesions all about, and it was impossible to get far in the attempt to cleanse the cavity. The course of the disease was not much modified, either for better or worse, by the surgical treatment. The patient gradually failed, and died six weeks after the first, and two weeks after the second operation. No autopsy was allowed.

CASE II. E. C. entered the Memorial Hospital in my service January 30, 1890. I had seen her in consultation a few days before, and supposed she had an ovarian tumor. She was a thin, pale, worn-looking woman of twenty-nine. Had been seven years married; two children, six and three years old. Family history, negative. She stated that one and a half years ago she had been in poor health for some months; but I failed to learn then, as I did afterwards

from a former medical attendant, that she was at that time supposed to be phthisical. A month before entrance she had first noticed a tenderness of abdomen and a pain about pelvis. Her attention thus attracted, she observed a swelling of abdomen. Has lost much flesh; has had some nausea; frequently required opiates for abdominal pain. At my first examination the abdomen was full, not tense, somewhat tender, and I could feel bimanually an elastic, nearly median tumor, apparently with pelvic connections, in size something less than a child's head. At a later examination I could not make it out so plainly, and the percussion was a little at variance with the idea I had formed. Still the ovarian idea was not dislodged from my mind. There was a small amount of ascites. The uterus could be felt anteriorly, and measured two and a half inches. Examination of urine gave a slight trace of albumen; otherwise negative.

February 14th. Patient was lightly etherized, and the abdomen opened by median incision below umbilicus. The parietes were very unusually vascular, one artery spurting fully a foot. The tissues were very friable, so that bits would crush quite off in the compression forceps. No tissue structures, muscle, linea alba or omentum were recognizable. Entrance to the peritoneal cavity was indicated by a gush of ascitic fluid, —greatly to my relief, for I was much afraid of opening intestines. Putting in my finger, I seemed to feel a tumor everywhere adherent to the parietes. Tearing adhesions when I could —some were too strong—I followed the tumor into the pelvis, behind the uterus, which was quite smooth and free from adhesions. At a short distance from the uterus, both broad ligaments disappeared into the mass. An enlarged incision showed the tumor to consist chiefly of intestines matted together. There were no sulci between the folds, but an even translucent surface presented, through which the coils of intestine could be faintly seen. The amount of ascitic fluid escaping as adhesions were torn, was a pint or two, of turbid straw color, with flakes of fibrin. There was considerable hemorrhage from adhesions. There was nothing to do; the adventitious tissue surrounded the intestines like a mould, and it was impossible to free them. The bleeding was stopped with hot water and the wound closed. A rubber drainage-tube was left in.

On the next day the tube was replaced by an iodoform ribbon, though there was no profuse discharge. Sutures removed in ten days; union complete except at point of drainage. Three weeks after operation the record is: "Since operation patient has had less pain, and taken more nourishment, but her general condition has not been changed. The temperature has kept along about as before, ranging from normal to 101 $\frac{1}{2}$ °—except for a few days after operation, when it rose to 102 $\frac{1}{2}$ °. It was found subnormal only once. Pulse before operation, 110-125; after, 100-110. The bowel movements became natural after the operation, which they had not been for a long time before."

March 8th, she wanted to go home, and was discharged. The drainage opening never closed, though there was never any great discharge. This fistula became fecal after she went home, and she died of exhaustion about five months after the operation.

Here are two cases of tubercular peritonitis in which abdominal section was done with no good effect.

¹ Read before the Massachusetts Medical Society, June 10, 1890, and recommended for publication by the Society.

Neither do I think the fatal termination was materially hastened thereby. Where was the fault in these cases? I shall inquire whether the operation of abdominal section for tubercular peritonitis is ever justifiable, and if so, under what circumstances, and in what way? First, a word as to diagnosis. The diagnosis of tubercular peritonitis is frequently difficult, and thus far has proved often impossible. Under the encouragement of a chance for cure, the diagnosis will be more frequently made, and fewer cases will pass for typhoid fever and ovarian tumor. In a table of seventy-one operated cases of tubercular peritonitis given by Maurange² in a thesis last year on the subject of "Surgical interference in tubercular peritonitis," — of these seventy-one cases the diagnosis was made before operation in fourteen, or one-fifth; while in forty, or well above one-half, the preliminary diagnosis was ovarian tumor. As the question is more closely studied, more indubitable diagnosis will be required, especially to discriminate from chronic peritonitis without tubercle, in regard to which pathologists are at variance — some thinking it common, others rare. Diligent search ought to be made in each case for the tubercle bacillus, not in the fluids, — for a negative result there is the rule, — but in the tissues themselves, or perhaps in scrapings from the surfaces of the cavity. The proposal of inoculation of animals is made, but so many of these experiments have been negative, that not much confidence is put in this method. The question whether abdominal section is ever justifiable is, I think, pretty well settled, and especially so in this locality by the work of Homans, Cabot, Elliot and Bradford.

However, text-books up to the most recent editions agree in regarding tubercular peritonitis as a hopeless disease. A newest text-book, however — "Taylor's Hand Book of the Practice of Medicine" — has this: "A considerable number of cases have now been successfully treated by opening the abdomen, washing out and sponging the surfaces of the peritoneum and inserting a drainage tube."

Tait, in the Edinburgh *Medical Journal*, November, 1889, says in his usual broadcast way: "That a therapeutic change is effected in the peritoneum itself by the mere opening of the cavity is now universally recognized in the treatment of what we call tubercular peritonitis by abdominal section. I have now had a large experience on this point, and can say positively that we can cure, permanently and speedily, cases that have gone even so far as suppuration by opening and cleansing, but in bad cases the cleansing is in all probability not complete, no matter how much care and time are spent on it, and in the non-purulent cases I very often do no cleansing at all, but merely empty out the serum and put in a drainage pipe. Yet the great majority of these cases are cured by these simple means." Somewhere else he says eighty per cent. are cured. I have myself no doubt that this strong statement will have to be modified.

Formerly, if one maintained the curability of tubercular peritonitis one's diagnosis was questioned. But that position of doubt cannot be held. The results of autopsies in general are enough to refute it. The record of any pathologist of large experience would furnish cases of latent peritonitis in persons who had died from other causes.

² Maurange. De l'intervention chirurgicale dans le peritonite tuberculeuse. Etude critique et statistique. Paris, 1889.

Pribram³ of Prague, writing in 1887, and dealing with a total of 3,500 autopsies, found 165 in which tubercular peritonitis existed. Most of them died, not of the peritoneal disease, but of pericarditis, pleurisy, meningitis or tuberculosis of lungs. The peritonitis was a secondary matter, and often retrograde. It was only in a few of the cases that the peritonitis was the cause of death.

Osler⁴ details several cases, when, after death from pulmonary tuberculosis, the traces of peritoneal tubercles cured, or in process of cure, were found. Moreover, Pribram found no cases of chronic exudative peritonitis among the 3,500 autopsies, which is incompatible with the idea that this form of disease — the non-tubercular sort — is so common as to account for all the cases which are diagnosed tubercular peritonitis, and which get well under medical treatment. Other observers, to be sure — Spaeth, Welch, Prochnowick — hold a contrary view; that there is a form of simple chronic peritonitis with quite similar fibroid nodules, but in fact not tubercular. Such a difference in view must at least indicate a considerable rarity of the simple form.

If any further proof were necessary of the curability or recoverability of tubercular peritonitis it is most indubitably furnished by the experience of modern surgery. Since abdominal section has become common, numerous cases have occurred in which the retrograde process has been observed either in the living body or in the body dead from other causes after longer or shorter interval. Pribam gives the case of a woman discharged from hospital relatively well of an illness diagnosed tubercular peritonitis. One and a half years later Breisky did an ovariotomy on the same patient. Microscopic examination of the peritoneum at the time of operation showed the remains of tubercular disease, and bacilli were even then present.

Ceccherelli⁵ operated on a boy of eleven in whom ascites was the only physical sign. The peritoneum was covered with tubercles. The ascites had returned in a month, so that laparotomy was again done. The number of tubercles had greatly diminished, and those remaining were found covered closely with recently-formed connective tissue, thus showing the method of repair in these cases. — Osler gives a very interesting case in point, which I will not detail. He says of it: "Surgically the operation was a success, as the symptoms were relieved and she left the hospital looking and feeling well. Then death following a short illness, gave an opportunity of studying the condition of the peritoneum four months after. The tubercles were found undergoing fibroid change, but still retaining their characteristic structure and still rich in bacilli."

In a list of forty-one cases of abdominal section for tubercular peritonitis reported by Kümmel⁶ in 1887, are two where the miliary tubercles were seen on the peritoneum at the operation, and were not to be found at all at the autopsy after death a few months later. Ahlfeld⁷ reports a similar case one and a half years after operation. In addition to these proofs, furnished by autopsy and microscopical examination of retrograde processes set up after operation, we have the

³ Pribram: Ueber die Therapie der Peritonitis tuberkulosa mit besondere Berücksichtigung der Laparotome, Med. Chir. Centralbl., Wien, 1887.

⁴ Osler: Tubercular peritonitis, Johns Hopkins Hospital Reports, vol. II, No. 2.

⁵ Ceccherelli: Abstract in Brighthwaite's Retrospect, January, 1890.

⁶ Kümmel: Arch. f. Klin. Chirurgie, 1888.

⁷ Ahlfeld: Quoted by Osler.

clinical history of many cases which have improved in health, or, so far as we can say, have got well, after laparotomy. Building upon this, men have begun within the last few years to operate for the tubercular disease alone, when it could be diagnosed, and with what success I will endeavor briefly to indicate. It is not essential to my purpose to separate the cases in which the diagnosis was previously made.

As to the proportion of operative cases cured it is a question which it is not possible to answer in any but a vague, indicative way. It is common in cases of tubercular peritonitis — even symptomatic in their clinical history — that there should occur periods of quiescence or obsolescence — the disease advances with remissions and exacerbations. In an analysis by Vierordt⁸ of twenty-four *clinical* unoperated cases, there was one finally fatal after a remission of three years, and this is only an example of a class of cases observed by him and others. This fact keeps the cures for a long time doubtful.

It is of little importance to know the number of cases in which the operation is *surgically* successful. There is not much danger in the operation, less, it would seem, than in a laparotomy where the peritoneum is healthy. The thing is to know when permanent benefit is to be hoped for. There is next to no danger of the operation itself being fatal, though, to be sure, some such have been reported. Maurange tabulates 71 cases of abdominal section for tubercular peritonitis. Osler, in a recent article in the Johns Hopkins Hospital reports, adds 26, and I have gathered 29 others. Making in all 126 cases.

Assuming that survival one year after operation entitles a case to rank as successful, I find among 126 cases 37 such, or 30 per cent. There is nothing accurate about this, for many of the cases in my table were reported within a year of the operation, so could not possibly come into this category; still it gives an idea. It shows that the number of cases surviving twelve months must, at all events, be more than 30 per cent. Most of these surviving cases were reported "well" at the end of the year, but I am unable to make any satisfactory estimate of the number of complete cures in this list.

Of the 55 cases which I have selected, outside of Maurange's table, 36 were living, and most of them called well, at various intervals from one month to four years, that is 66%.

Again, of the 55, 8 were living and explicitly *well* at the end of a year. This would make a rate of cure nearly 15%. This is certainly below the true proportion of 12 month cures, since a large number of this series of 55 were reported within less than a year of the operation.

These figures, — 30% of 126 cases surviving at the end of a year, and 15% of 55 cases *well*, apparently cured, at the end of a year, — are certainly encouraging, in view of the quite hopeless fate formerly apportioned to the victims of this disease. These facts show no such victory as Tait celebrates when he claims 80% of cures, but still a victory.

The calm facts are that certain cases of tubercular peritonitis are open to surgical cure. Although no general cure has been discovered, a step in advance has been made.

Now as to the kind of case which promises good

⁸ Vierordt: *Über die Tuberkulose der Serösen Hämme*, Zeitschr. f. Klin. Med., B. 13, H. 2.

results after operation. Not all cases of tubercular peritonitis are to be operated on, by any means. A certain number get completely well without operation, and another number is outside the possibility of help. A certain group of cases are unhesitatingly to be operated upon, another group are to be unhesitatingly left alone, while in others the question must be decided on individual merits. It is impossible to settle the question by tables of symptoms, but I will enumerate a few of the indications and contra-indications, prefacing that the general condition of the patient will perhaps settle the question of operation or no operation, as often as anything.

First. Indicating operation:

- (1) Abundant ascites.
- (2) Absence or small amount of solid masses.
- (3) Disease primary in the peritoneum, though the mere presence of tuberculosis elsewhere does not forbid operation. Some cases have apparently recovered entirely, when there was slight co-existing disease of the lung, both peritoneum and lung becoming healthy.
- (4) Encysted disease, that is, serous or purulent pockets.
- (5) Intestinal obstruction.

In the last two, operation is imperative.

On the other hand, contra-indicating operation:

- (1) Absence of ascites.
- (2) Abundant masses or strands.
- (3) Secondary to advanced general tuberculosis.
- (4) Intestinal ulcers.

The last two forbid operation.

As to method of operating. The abdomen should be cleaned out as well as possible, by flushing with hot water and sponging; separating meanwhile any adhesions which can be broken without injury to the viscera. No antiseptic and no drain, unless for some special reason, as, for instance, hemorrhage.

Tapping should not be practised. There is danger of doing harm, and it cannot do so much good as laparotomy.

Returning to my two cases, I should still advise operation in the first case, that of the man, with ascites and light adhesions, though I think it ranks with doubtful cases and perhaps should be excluded on account of its acute character, its rapid and uninterrupted course. It would certainly have been better to break up adhesions everywhere, so laying open any loculi there may have been, and making a more thorough peritoneal toilet.

The second case was operated under mistaken diagnosis. Had the diagnosis of tubercular peritonitis been made before operation, the absence of ascites, the presence of so much solid mass, and its probably secondary character, would have contra-indicated operation.

In neither case would I put in a drainage-tube, for it does no good, unless, of course, there is some special indication, and the tube track is very likely to remain fistulous, or even become fecal, as in my second case, by ulceration through the intestinal wall from the outside.

— A decimal point is a small point for a human life to hang upon. It was a point so indistinct in a New York physician's prescription that the druggist put up 75 grammes of aconite, instead of 7.5 grammes as intended. The mother of a sick baby, for whom the medicine was given, tested it by tasting from the bottle, and was killed.

A FORM OF POLYNEURITIS, PROBABLY ANALOGOUS TO OR IDENTICAL WITH BERIBERI, OCCURRING IN SEAFARING MEN IN NORTHERN LATITUDES.¹

BY JAMES J. PUTNAM, M.D., OF BOSTON.

On the 21st of last October, a man, thirty-nine years old, the mate of a fishing-vessel that had just arrived from the Grand Banks, was referred to me by Dr. M. A. Morris, of Charlestown, and gave the following account of his condition: He was suffering from weakness in both arms and legs to such an extent that he could walk only with difficulty. His legs felt numb and prickly, and he had observed an actual loss of sensibility of the skin. This feeling of numbness extended up the legs and thighs and over the lower part of abdomen to the umbilicus. The arms were in a similar condition, but to a less degree. No affection of the face or eyes had been noticed. There was no pain anywhere, and no affection of the sphincters of the bladder or rectum. He said the legs were swelled, but not so much so as they had been a short time before, and that the calves and the inner surface of the thighs felt sore and lame. He reported that he had been well up to two weeks previously. The first symptom noticed was pain on the inner surface of the thighs, on the 7th of October. The next day he felt sick, and the swelling of the legs and thighs showed itself. He kept in his bunk for several days, feeling weak and depressed, with a steady diminution of strength in legs and feet. Since then he had improved only slightly. He had had no fever so far as he knew.

On examination, the patient was found to be pale, with a yellowish cast to the skin of the face. His gait was waddling; the legs were used like stumps, and the feet brought down flat on the ground, as if simply hinged at the ankle. He had considerable difficulty in getting his coat off and on. In going down stairs he was obliged to turn sideways and to bring both feet down upon each step. There was slight toe-drop; and marked swaying of the body when the patient stood with the eyes shut. There was no inco-ordination in the arms or hands. The grasp by the hand was feeble on both sides, more so on the left. Extension of the fingers and carpus was imperfect on both sides. The sensibility of the hand to touch was so nearly perfect that the patient could feel the lightest contact with my finger everywhere. The sensibility to contact in the feet and legs was but little below the average, but the character of sensation imparted was not quite normal. The prick of a pin was promptly and distinctly felt, and, indeed, the patient's answers suggested some degree of hyperesthesia. A very light touch was also felt over the abdomen below the umbilicus, but as compared with the area above the umbilicus, the sensibility of the affected part was slightly impaired, or, at least, the contact gave rise to a feeling of a different kind in the two parts. A piece of metal of the temperature of the room was distinctly felt as cold wherever tested. The knee-jerk was absent on both sides, even during "reinforcement."

The calves of the legs were large and tender on both sides, distinctly more so than normal, by the patient's account, and there was pitting on pressure along the shins. The muscles over the inner surface of the thighs were also tender to deep pressure, and, to a slight degree, the muscular masses of the arms. No

enlargement of the spleen could be made out. Inquiry into the patient's previous history showed that he had been in all respects a temperate man. The pulse was 78, full and strong; temperature, 99° F. in the mouth.

To revert to the surroundings of the patient before the attack came on, it appeared that for nearly six months before his sickness he had been on a fishing vessel off the Grand Banks. The vessel had been very insufficiently provisioned, and the captain had insisted on protracting the trip, so that for some time the crew had had little else to eat except molasses, fried pork, and pancakes, and the water had been foul. Nine or ten other men beside the patient had been affected like himself, and most of them more severely. The first one was attacked two months before he was, namely, in August. Their legs were badly swelled, so that the pitting on pressure was frequently noticed. I learned further that some of these men had been treated at the Marine Hospital, and I was shortly afterward enabled through the kindness of the surgeon in charge, Dr. Fairfax Irwin, to learn something of their history and to examine one or two that remained. Dr. Irwin reported to me that on account of the oedema, the malnutrition, and in one or two more of the cases, the typical purpuric condition, he had made the diagnosis of scurvy, and it certainly seems highly probable that this affection accounted for a part of the symptoms.

Of the two patients remaining in the hospital, one was a typical example of multiple neuritis, presenting well marked wrist-drop and toe-drop, impairment of sensibility of the hands and feet, and more or less tenderness on deep pressure into the muscular masses of the arms and legs. He had been improving and soon afterward left the hospital.

Some months after these cases were brought to my notice a patient presented himself at the Massachusetts General Hospital, presenting the symptoms of multiple neuritis in even a more severe form than either of the cases already described, and bringing a note from his physician, Dr. Stone, who asked for a diagnosis, and said that he had seen several other cases of the kind. He gave the following history: Was a seaman, twenty-one years old, single, in good circumstances, and with absolutely no history of constitutional disease. He had been well up to the 1st of July, 1889. At that time he was in a fishing vessel off Block Island, near Newport, R. I., having left his home in Wellfleet early in June. The vessel was well provisioned. The first symptom consisted in a sense of numbness in the feet, which began at the toes and spread rapidly upward, but never reached more than midway up the thigh. Soon afterward the fingers also began to be numb, and the sensation extended in the same manner. At the time of the illness he was feeling as strong and healthy as ever in his life. The weakness of the arms and legs began almost at the same time with the numbness.

Soon after these symptoms appeared, the legs, as well as the lower half of the thighs, began to swell, and became highly edematous, pitting deeply on pressure. At the same time he began to have severe pain, mainly along the shin, accompanied by marked soreness on pressure. It is possible that this pain was due to the swelling, since the feet were not painful. There was no pain in the arms.

On the 26th of August, the patient began to suffer from dysentery of severe character, which lasted for two weeks and was followed by a severe diarrhoea, which continued for three months. He re-

¹ Read at the Annual Meeting of the Neurological Association, Philadelphia, June, 1890.

mained in bed all the time, having a very large number of movements daily, and, indeed, his legs became so weak that when he tried to stand he found it impossible to do so.

During a great part of his illness he was on shore, having left the ship after having been sick for a week or two. During the height of his illness he had several attacks of unconsciousness, lasting for an hour or so, accompanied by high fever, which was thought to be of malarial origin. For two or three weeks, just after the dysenteric attack, he was unable to control the sphincter of the bladder. At the time I saw him, he had improved considerably, both as regards the paralysis, which had been so great that all motion of the toes and feet was abolished, and the muscular wasting, which had been very marked.

The patient reported further that all the men aboard the ship, eight in number, were affected like himself to a greater or less degree, except that only one had the dysenteric symptoms. The paralysis was about equally great with them all, but did not in most cases last so long as with him. The other member of the crew who had dysentery, was attacked with it at about the same time with himself, and afterwards died.

The physical examination of the patient showed his condition to be characteristic of the so-called multiple neuritis, if not, indeed, that and something more. No motion was absolutely impossible, but a high degree of toe-drop was present, and the extensors of the carpus and fingers were much affected. He walked slowly, and only with the aid of a cane.

Examination of the sensibility showed that the sense of contact on the foot was slightly blunted to a little above the ankle. He was a good deal at a loss to localize the sensation, mistaking the sole of the foot for the dorsum, etc. The outer side and back of the foot seemed to be more affected than the sole. There was considerable delay in conduction. A piece of metal of the temperature of the room was sharply felt, even on the great toe. His sense of position seemed slightly impaired, so that he had difficulty in standing with the eyes closed, and he failed to state correctly the position of the toes. The foot felt cold to the touch. There was no static ataxia of the hand, and the sense of contact was apparently normal for the tips of the fingers. Two points were distinguished at about one millimetre. The electrical reactions for the muscles of the legs were much diminished.²

In October, 1881, Dr. F. C. Shattuck reported in the *Boston Medical and Surgical Journal* a series of cases evidently of the same character with those to which I have referred, and occurred under precisely similar conditions.

The patients were fifteen in number, and embraced all but four of the officers and crew of a fishing vessel, the *Nellie Swift*, that sailed from Provincetown for the Grand Banks on June 5, 1880. The first patient fell sick on August 1st, complaining of soreness in the calves of the legs and a dead feeling in the ankles, which was soon followed by swelling in those parts. The subsequent symptoms in this and the other cases consisted of extensive and severe anasarca, pain and

numbness. One of the patients died, having presented the above symptoms and, in addition, dyspnea with effusion in the chest. The urine had been scanty and high-colored, free from albumen, but containing a few granular casts. An account of the autopsy was sent to Dr. Shattuck by Dr. J. M. Crocker, of Provincetown, under whose care the patient had been. Serum had been found in the pleura, pericardial and peritoneal cavities. The heart was flabby, but otherwise normal. The kidneys were normal in appearance and size. The spleen was unusually small. Dr. Crocker further reported that none of the cases had, so far as he knew, presented hemorrhages, or other symptoms of scurvy, beyond edema of the ankles; and, further, that the drinking-water which was used on the ship was thick andropy.

As has been stated, the vessel was off the Grand Banks when the sickness broke out. During the previous winter, however, it had been engaged in the fruit trade in the West Indies, visiting Nassau among other places. The provisioning of the vessel had been practically the same as that of other vessels in the same trade. In a letter written a few months later, Dr. Shattuck also referred to the epidemic which broke out on a Brazilian man-of-war, said to have been improperly provisioned and in an unhygienic condition. Leaving Brazil, the ship sailed for Europe, touched at points in the Spanish Peninsula, and passed through the Suez Canal to Aden, where the disease, which was manifestly of the same character with that of the cases already reported, first broke out. The cases were treated in the Marine Hospital in San Francisco, and an account of them was published in the hospital reports. Dr. Shattuck concluded that the cases must be of the nature of beri-beri, and quotes Dr. Roosevelt as having described a series of cases which occurred on the *Henry S. Sanford*, which sailed from Hong Kong for New York, July 20, 1886. Of a crew of eighteen, twelve were attacked, and several cases were fatal. The outbreak of these epidemics on the last two vessels named is perhaps remarkable from the fact that it occurred so long after the vessels had left the southern ports where beri-beri is to some extent endemic. In one case the interval was three months, and in the other six months. I have a number of references to other cases where the same fact was observed. In the two sets of cases to which I first referred, however, even this explanation is wanting, unless it may be that one of the vessels was infected during the previous winter, and we are obliged to fall back on the conclusion that some infectious form of multiple neuritis occurs in northern latitudes, a view supported by the occasional occurrence of such cases as those described by Rosenheim, and published in the seventeenth volume of the *Archiv für Psychiatrie*, and the cases reported by myself at the meeting of this Society in 1888. Both were severe cases of acute generalized neuritis, running a rapid and fatal course, but without edema.

Wishing to learn whether other cases of this sort had been observed by physicians in the sea-board towns, I sent out a large number of circulars, and obtained fifteen answers: of which those from six physicians — William S. Birge, of Provincetown; S. F. Quimby, of Gloucester; G. B. Stevens, now of Roxbury; S. T. Davis, of Orleans; Benjamin D. Gifford, of Chatham; W. N. Stone, of Wellfleet; and E. E. Hawes, of Hyannis — are of decided interest.

² *Vastus internus* and *rectus femoris*: faradic reaction 6.5, normal 11-12. Sartorius reaction almost normal. All the muscles below the knee reacted to about the same strength of current as above. Galvanic reaction: no local contractions from weak or moderate currents; contractions of twenty seconds duration from strong currents everywhere, +. The peroneal nerve reacted to five milliamperes at first the tibialis anticus responding; but after one or two closures, the contractions died away, and could no longer be obtained.

Dr. Birge reported having seen seven cases, five from one vessel, and two from another, belonging to a fishing fleet which had returned from the Grand Banks. Two of the cases had proved fatal. The symptoms described were evidently of the same character with those in the cases reported by Dr. Shattuck and myself. One of the vessels may have been, however, the same with that from which my first patient had come.

Dr. Quimby had seen the master of a fishing schooner who had these same characteristic symptoms, pain and paralysis in the lower extremities being very marked. The symptoms had come on, as he thought, as a sequel to the influenza of the past winter; but, as I have been looking in vain for cases of typical generalized neuritis following the influenza, I think this explanation is not probable.

Dr. Stevens also called my attention to a case which he had reported in the *Boston Medical and Surgical Journal* of June 16, 1887, occurring in the mate of the bark *Charles G. Rice*, which arrived in Boston May 12th of the same year, from Manilla, after a passage of an hundred and twenty days. The symptoms were essentially diarrhoea, oedema, and (eventually) numbness of the legs without paralysis. The point of particular interest in this case is that the patient was well when he left the port of Manilla, and became ill about a month after that time.

Dr. Davis had seen "a lot of cases where men who had handled fish complained of numbness and great swelling of the hands, and great difficulty in using the extensors." He had considered these due to the irritating action of the fish on the hands. In view of the uniformity of the employment of all the men, this explanation should receive full weight, but the fact that a much larger number of cases seems, as far as we know, to have occurred in certain years than in others, it would seem that neither this nor any other local cause could be the only one at work.

Dr. Gifford had seen one patient, a sea-captain, with symptoms that might, perhaps, be of this character.

Dr. Stone has sent me the notes of five cases, of which at least three may have been of this class. The diagnosis, is, however, not certain, and in some of the cases other well-known causes of general neuritis were present.

The first of the five patients was a man of forty years; a seaman, of temperate habits, and free from constitutional diseases, so far as is known. The symptoms had consisted in progressive numbness of the legs, reaching to the knees, and toe-drop, the whole increasing to its maximum in a few weeks. He improved to a certain point, but never entirely regained the use of the extensors of the foot. This case occurred two years ago.

The next patient was a man of forty-five years, who had followed the sea until the last five years, since when his occupation has been that of a sail-maker, his place of business being on the beach, where he was exposed to wet and damp. Three years ago he was attacked with what appeared to be sciatica, which first attacked one leg, but soon extended to the other, and lasted for a number of months. From this he recovered, but a year ago it returned, and remained for some three months. A short time ago he was again attacked with severe pain in the limbs and feet, and the hands became badly swollen. The swelling subsided after a time in the

hands, but attacked the feet, and at present is spread over the whole length of both legs. The pain is still very severe.

The next case was that of a man of thirty-five; of previously good health, temperate habits, and free from constitutional diseases; he had always followed the sea. His symptoms had consisted in acute onset of pain in both legs, and in general, in the distribution of the sciatic nerve. This pain was worse in the afternoon and evening, as a rule. It subsided in the course of a week or two, but for three months more his muscles were so weak he was unable to walk even with crutches. Four or five months later he could go about with difficulty; and before the end of a year he was able to go to sea again, though still, at the end of nine years, showing some awkwardness in his gait, and using the feet as if they were of wood.

The fourth case was a man of sixty-three. It was a typical case of multiple neuritis, but is not reported here at length, because the habits of the patient suggested that alcohol was the cause of his sickness.

The fifth case was that of a man fifty-five years old; always in good health and a member of the life-saving service crew, his duty being to patrol the beach at night. The beach, when not frozen, was sandy, making the walking difficult. A year ago he came to Dr. Stone, complaining that while walking his toes felt as if there was sand in his shoes, and that this feeling had increased of late. He had noticed that on going down a sharp decline the knees were apt to give way, so that he would fall. Of late the numbness had extended to the calves of the legs, and he had recently had pain through the abdomen to the back, and down the thighs.

Dr. Stone was kind enough to give these notes from his memory, but I thought it better to put them in on account of the obscurity concerning the etiology of this class of cases, thinking they might throw some light upon it.

Dr. Hawes, of Hyannis, writes: "About seven months ago I had a fisherman (I am hospital surgeon of this port) come to me with an ulcer on his leg. I treated it, and he went again to his vessel. He said, 'A few weeks ago I was taken lame, hardly able to stand erect, and I feared I should be paralyzed.' It seems, as he rallied from that, the sore formed. I judged it might be rheumatism, and so can say no more about it. But since receiving your letter I have thought it might be the beri-beri that the man tried to explain, and that the sore might have been an ulcer following the above-named trouble."

To sum up, it would seem that, in 1881, and again in 1889, there were epidemics of this disease, whatever name it may deserve, occurring among the crews of vessels fishing along our northern shores, and that sporadic cases of the kind are occasionally met with.

The cases that I have seen or heard of number fifteen or twenty, and embrace the greater part of the crews of five vessels, three of them from the Grand Banks, and one from off Block Island. This aggregate does not include Dr. Shattuck's cases nor those described in the letters.

I have received a letter, within a few days, from one of the patients whose case I have reported, saying that he still suffers from numbness of the feet and toe-drop, although it is now about — years since he was first attacked, and saying, further, that another of the crew is still quite sick. It is possible that, either primarily or secondarily, the spinal cord

was affected, as well as the peripheral nerves. He further notes that his vessel was a mackerel fisherman, while those off the Grand Banks were cod fishermen.

The possibility of infection from the fish should be considered, and the letter from Dr. Davis is interesting in this connection.

This patient also says that the vessel on which he and his crew were employed had not at any time been engaged in the Southern trade, so that this possible cause of infection, which was present for Dr. Shattuck's cases, may be set aside, so far as this group is concerned.

A SUCCESSFUL CASE OF URETERO-LITHOTOMY FOR AN IMPACTED CALCULUS.¹

BY A. T. CABOT, A.M., M.D.,

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The following case is interesting, first from the fact, that so small a calculus should lodge for so long a time in the ureter without progressing toward the bladder; secondly, on account of the serious constitutional disturbance that it caused; and lastly, from the success that attended its removal.

The patient, rather a slight man of forty, was under the care of Dr. S. W. Driver, of Cambridge, and was seen on the 22d of April, 1890, in consultation with him, and with Dr. J. T. G. Nichols and Dr. Walter Ela.

Six years before, he had been under the care of Dr. Driver for an inflammation of the bowels, which was mainly located in the right side, and was probably connected with the appendix. Since that time he had enjoyed good health with the exception of occasional attacks of colic, for which he sometimes consulted the doctor, and which seemed to be due to disturbances of digestion.

For the past three months his bowels had been somewhat loose, and during this time he had had seven or eight sharp attacks of pain which came suddenly and passed away suddenly, and were all referred to the left side, in the front of the abdomen, at a point just above the middle of Poupart's ligament. This pain did not run down the thigh nor into the scrotum, although retraction of the testicle was noticed in some of the paroxysms.

None of these attacks were severe enough to demand medical aid until April 16th. On that day he was seized with a sharp, sudden pain, like that in the previous attacks, but much more severe, and enduring persistently, not passing off as the others had done. He was then seen by Dr. Driver, who found him suffering from very severe paroxysmal pain. The abdomen was soft and flaccid, not tender, except slightly in the left hypogastrium, at the point where the pain was especially felt. Subsequently, a very sensitive spot was found in the back, midway between the crest of the ilium and the lower rib. This last spot of tenderness was constant, not disappearing during the intermissions, and the pain on pressure was very acute.

He was treated with full doses of opium, together with the frequent administration of ether when the paroxysms were especially severe. In this way he

passed five days, suffering pain most of the time, though with occasional intermissions of considerable length.

Examination of his urine showed it to contain a few hyaline and granular casts, and on April 20th considerable pus was found in it.

On April 21st, he had for the first time, some fever, the temperature going to about 101° F., and the pulse being above 100. Except for this he had a good day, with but little pain.

Early in the morning of April 22d an unusually sharp attack of pain began, and this lasted until we saw him, at one o'clock; the only relief obtainable being by the persistent inhalation of ether. The moment that he began to be conscious, the crying out from the pain was constant.

On this day he began to vomit, and his pulse was weak and frequent.

At the time of consultation the urine was perfectly clear. He was partially under the influence of ether when examined, so that his sensations could not be accurately determined, but it was quite evident that the point of extreme tenderness was in the lumbar region, midway between the ribs and pelvis. There was also a slightly increased sense of resistance felt over the renal region, but it was thought that this was very probably due to muscular rigidity.

Although there had been no movement of the bowels since the beginning of the attack, the absence of sensitiveness or distension in the abdomen made it pretty clear that the intestines were not responsible for the present illness. On the other hand, the character and location of the pain, with the tenderness in the lumbar region, pointed to the kidney as the probable source of trouble; and even in the absence of disturbances of micturition, and of the characteristic pain shooting into the testicle, it was thought that a calculus in the ureter was probably the correct explanation of the symptoms. The varying condition of the urine, now containing pus and again clear, made it seem that a certain amount of urine leaked around the calculus, and the presence of casts in the urine showed that the kidney was already suffering from the obstruction.

In view of the rise of pulse and temperature, and the distinct and rapid loss of strength under the severe pain and the appearance of vomiting, it seemed wise to attempt to remedy the condition by an operation. The possibility that there might already be an inflammation, with pus forming around the site of the calculus, made the operation seem the more desirable.

The patient was accordingly etherized, and an incision was made along the outer edge of the quadratus lumborum muscle, from the lower edge of the twelfth rib to the crest of the ilium. The space between the rib and the pelvis was very narrow, even after the trunk was bent strongly over pillows.

The kidney was found to lie very high under the ribs so that only its extreme lower end could be brought into view. A needle carried through the kidney, in the direction of the pelvis, met with no resistance and encountered no calcareous matter. An exploration was then made along the course of the ureter, as nearly as that could be determined, and in the deep part of the wound about two inches below the kidney, a small hard mass was felt, and on examination it was found to be lying in the ureter. With a blunt hook the ureter was drawn forward into view,

¹ Read before the Boston Society for Medical Improvement, May 12, 1890.

and exploration with a fine needle showed this mass to be a little calculus. It was readily removed through a little longitudinal cut in the line of the ureter.

A probe was then passed through this opening, up into the pelvis of the kidney, and downwards about five or six inches towards the bladder, without encountering any other calculi. A drainage-tube was laid in close contact with the opening in the ureter, and another was carried up behind the loose tissues around the kidney. The angles of the wound were brought together with sutures, but it was left largely open. The patient bore the operation well.

After recovering from the ether, the sharp paroxysmal pain had wholly disappeared, although there was still considerable dull pain in the same region as before.

The first urine after the operation was examined with the following result: Color, high; specific gravity, 1,019; sediment considerable, containing many large and small, hyaline and granular casts, a few pus cells, and occasional red blood cells. This specimen contained no albumen.

Two days later, on April 24th, the specific gravity was 1,023, and there was a large trace of albumen. The sediment still contained hyaline and granular casts, but far less abundantly. There were also still a few old blood cells, and very few pus cells.

On April 25th, the patient had a sharp attack of pain in the morning, which he located in the old place. This was relieved by the subcutaneous injection of morphine, and at the dressing, the tube which reached down to the ureter was shortened, with the idea that it might possibly be obstructing the flow of urine. The next day, the dressing, which had been dry since the day after the operation, was soaked with urine, and there had been no recurrence of pain. The patient was beginning to take food well, and was looking much better.

On May 2d there was another slight attack of pain, and this too was accompanied by the escape of urine through the wound. From this time the wound steadily closed, there was no more leakage of urine nor pain in the course of the ureter. The patient steadily gained in flesh and strength. Finally, on May 12th, (three weeks from the time of operation), the last tube was removed, and the patient was up and out of bed.

The calculus removed in this case was a little rough phosphatic and carbonate stone weighing two grains.

A stone impacted in the ureter is a condition by no means devoid of danger. Cases are reported, in which, even although the other kidney was apparently healthy, a fatal suppression of urine has followed the stoppage of one ureter in this manner. Israel, who has reported such a case, regards the suppression as due to a reflex inhibitory action, the starting point of which, is the irritation of the ureter by the calculus; and he cites cases to show how much the secretory function of the kidneys is under the control of the nervous system. Urethral surgery furnishes further illustrations of this sort of inhibitory action due to distant irritation, in the cases of interference with the function of the kidneys after operations, often of but little severity, on the urethra.

Besides this general danger of interference with the secretion of urine, the kidney on the affected side

often becomes seriously diseased through changes directly due to the obstruction to the escape of urine. These changes may take the form of a hydronephrosis, or of an interstitial nephritis. The formation of a pyonephrosis under these circumstances too, is by no means uncommon.

That the kidney in the case reported had already begun to suffer, was shown by the presence of casts and pus in the urine. Unfortunately, no exact measure of the daily quantity of urine had been made, but it had been noticed to be diminished in amount, and this diminution was due, no doubt in part, to the obstruction of the calculus, and partly to the reflex irritation, and to the congestion of the kidney.

It would seem wise to operate for the removal of an impacted calculus as soon as any constitutional symptoms show themselves, or when there is evidence that the kidney on the affected side is beginning to suffer degenerative changes. An operation for the removal of a calculus, if done early, is much better borne than when done upon an exhausted patient, late in the progress of the disease. It may too save a useful kidney which would be lost by delay.

It is often difficult or impossible to determine beforehand the position of a calculus in the ureter. The point of greatest tenderness should be sought for with a good deal of care. In the case just reported, the stone was found directly under the point of constant tenderness in the loin. When the stone is lower down in the ureter, it is sometimes possible, particularly on a thin patient, to find a constant tender point where the calculus rests by deep pressure over the line of the ureter through the anterior abdominal wall. In a woman, the calculus may be felt through the vagina, if it has lodged in the lower part of the canal. Such a case has recently been seen by the writer, where the calculus could be distinctly felt lying close to the left side of the cervix uteri, and a little behind it.

Israel proposes the following incision for exposing the ureter extra-peritoneally: Commencing at the anterior edge of the sacro-lumbar mass of muscles, a finger's breadth below the twelfth rib, the cut is to be carried parallel to the rib as far as its tip; then turning down towards the middle of Poupart's ligament till the line of usual incision for tying the iliac artery is reached, then turning towards the middle line, and ending on the external border of the rectus muscle. According to the seat of the calculus, the incision will be made on the posterior, middle or anterior third of this line.

When, as is sometimes the case, the calculus is actually lodged in the vesical opening of the ureter, it may be reached by a supra-pubic incision in the case of a man, or by a dilatation of the urethra in the case of a woman. This lowest portion of the ureter is also quite accessible in woman through the vagina, and in the case above alluded to, in which the calculus could be felt alongside of the cervix uteri, it was removed by incision in the vault of the vagina, and was found to weigh 190 grains in the wet state just after its removal.

This case, which is not yet completed, will be reported more fully at some subsequent time.

The favorable course of the case which gave the title to this paper, shows that a longitudinal cut in the ureter will quickly close, just as similar incisions do in the urethra. No attempt to apply sutures to

the wound in the ureter were made. The wall was so thin that a suture would necessarily have entered the canal where it would be likely to have given rise to the deposit of urinary salts, the calibre would have been narrowed by any gathering together of its walls, and the ureter lay so loosely in the tissues about that, unlike the urethra, it could not be drawn together by stitching the tissues down close to it, and lastly, it lay so deep that it would have been almost impossible to apply sutures without a much more extensive separation of the tissues about it.

A PLEA FOR PHYSICAL DIAGNOSIS.

BY J. HILGARD TYNDALE, M.D., NEW YORK.

BROADLY speaking, we recognize in diseases of the lungs two main pathological divisions. *Rapidly developing processes*, of which croupous and catarrhal pneumonia and all forms of pleurisy are examples; and *slowly progressive processes* — represented by shrinkage of connective tissue (fibrous phthisis), caseous infiltration, and the formation of cavities. Tuberculosis — the presence and rapid proliferation of the bacillus tuberculosis — is to be classed either as an acute invasion or as a final climax to chronic conditions.

To determine the existence of any of the above conditions we resort to auscultation and percussion as a means of diagnosis. In speaking of the methods by which the average physician arrives at a conclusion by means of auscultation and percussion, I will confine my remarks to diseases of the lungs to illustrate the pathological condition — leaving out the heart and abdominal cavity, pass by palpation and inspection as aids to diagnosis, and confine myself to auscultation and percussion alone.

Given, patients whose subjective symptoms point to acute or chronic disease of the lung. Given, also the general practitioner, who is about to examine him. I refrain from calling attention to the average *method* of examination; auscultating and percussing over clothing — a most reprehensible proceeding — or how ear and fingers are used to determine sound, or whether or not it is always best to use hammer and stethoscope. What will the attending physician look for?

Chiefly, and often only, for *moist or dry râles* — the so-called adventitious sounds. If they are present, the diagnosis is largely, if not entirely, based upon that finding. Or going a step farther, he will determine the *presence or absence* of the two normal respiratory sounds — the vesicular and tubular (bronchial). Thus far auscultation. As to percussion, he will determine whether the percussion note approaches the norm or, if not, whether there is *distant* dulness or an equally readily recognizable tympanitic sound.

In active processes in the lung, a correct diagnosis can be, and often is, thus arrived at, more especially when the disease is accompanied by more or less fever. So far, so good, for the patient as well as for his medical attendant.

Again, it must be borne in mind that a practitioner with an extensive practice cannot be expected to devote a very great portion of his time to one patient. And to make a correct physical diagnosis in disease of the respiratory organs, and to note its progress from day to day, requires time.

The great bulk of cases in which the subjective symptoms of a patient point to lung trouble, however, are not of an acute nor of a very pronounced character. I venture to assert that seventy per cent. of all chronic lung troubles present no such readily recognizable physical signs as those mentioned above.

All progressive pathological conditions of the lung, which we sum up under the comprehensive heading of pulmonary consumption, finally cause death by an invasion of acute tuberculosis, by purulent infection, or by heart-failure, or several of these elements combined. Years often elapse before this finale is reached. During all this time the slowly destructive process goes on, even though the general nutrition may be in great measure, unimpaired.

We are all familiar with the forms in which these processes present themselves. They are, broadly speaking, as follows:

(1) *Shrinkage*. — The result of connective tissue processes around the bronchi and in the pleura. The latter is by far the most frequent starting point of all phthisical conditions.

(2) *Filling up* of the bronchioli, and consequent obliteration of vesicular structure by inspissated mucus and pus, and by epithelium — so-called cheesy infiltration.

(3) *Excavation*. — The formation of one or more large cavities, or a great number of small ones.

Neither of these three conditions is in itself a deadly agency, but they are the potent factors which slowly drift the patient toward death by one feature common to all: The gradual but certain *diminution of the respiratory surface*, necessary for the oxygenation of blood, and the existence of the patient. In other words, they steadily encroach upon the territory requisite for respiration. This is one of the most potent truths in pathology, and should ever be borne in mind.

Now whenever shrinkage, infiltration or excavation are present to such an extent as to seriously impair the requisite respiratory surface, then the physical signs mentioned above become readily recognizable — namely: moist or dry râles; or distinct absence of vesicular murmur, and tubular respiration where the vesicular should be heard. Also dulness or exaggerated resonance on percussion. These are the signs to which I have drawn attention as being easily recognized even by an unskilled observer.

And now I come to my actual plea for physical diagnosis. I reiterate that the great majority of phthisical patients present no such tangible evidence of their lung condition as mentioned above — never in the incipient stages, and hardly ever before weeks and months have elapsed.

This plea is not intended as a handbook of physical diagnosis. Hence the necessity of confining myself to broad facts. The physical signs of all forms of pulmonary phthisis are caused by one of two main pathological elements.

(1) *Changes of structure in the pulmonary and bronchial tissues themselves* — whether by connective tissue shrinkage, cheesy infiltration, or the invasion of tubercular bacilli, or an intermingling of several.

(2) *Adhesions of the pleura*, which act as a mechanical hindrance to respiration, by binding down the lung.¹

¹ The credit of bringing forward, and upholding this most important factor in lung troubles, is almost entirely due to Prof. James E. Leaming, of this city.

For the purposes of this paper it is not necessary to include percussion nor the auscultation of the voice. Auscultation of the respiration will illustrate all I wish to say.

In order to hear what is going on in the lungs, it is necessary to have at least a faint idea of music, not that the respiratory sounds are musical notes, for they are not, but they have this in common with musical tones: They have a certain *quality* (*Tonart* in German), a *pitch* of this particular quality and, last but not least, a *rhythm*, a fixed time (tact), as has any melody. In the normal condition, the respiration should be: (1) As to quality: Rustling vesicular murmur and tubular respiration, according to locality. (2) As to pitch: A moderately low one. (3) As to rhythm: Inspiration (audible) no pause and an expiration (almost or altogether inaudible).

The deviations from this normal standard, however small, are what constitute the physical signs in the early stages of consumption. Right here it is necessary to emphasize, however, that there is no *patent* norm for all individuals, and that, therefore it requires more skill to determine what apparent changes are *within physiological limits*, than to find actual deviations from the norm.

While in the act of auscultating, the ear or stethoscope should not be removed until quality, the pitch of this quality, and the rhythm of the respiratory movement are fixed in the listener's mind.

Let the physician remember that all three of these elements have their *norm*, a mere *deviation* from the norm and *abnormal sounds*, either accompanying or supplanting them altogether. We are here dealing with the deviations only. They are in short:

(1) As to quality: Exaggerated, diminished, absent.

(2) As to pitch: Higher or lower than that which accompanies normal vesicular or bronchial breathing.

(3) As to rhythm: An interrupted inspiration (misnamed cog-wheel respiration); a pause between inspiration and expiration, which ought not to be there, a prolonged and audible expiration.

The next duty of the auscultator is to find whether these deviations from the norm are caused by mechanical hindrance only — in other words, by a binding down of any portion of the lung by pleuritic adhesions, recent or old.

To determine whether slight deviations from the norm of quality, pitch and rhythm are within physiological limits or, if not, whether they are caused by mechanical hindrance in the shape of pleuritic adhesions and their traction, or whether these slight deviations are the true signs of incipient phthisis in an already shaky subject — to determine these fine points is the quintessence of physical diagnosis. A failure to appreciate these fine distinctions in acoustic signs may lead to a plan of treatment which is bound to prove futile, and perhaps fatal.

In connection with this subject of careful physical diagnosis, let me draw attention to two papers by Prof. James R. Leaming, in which this question is handled in a far abler manner than I am able to do it. The one is entitled: "Acoustics applied to the human chest in physical diagnosis,"² and the other: "Interpleural pathological products; their cause, significance and specific relationship to pulmonary phthisis."³

² New York Medical Journal, January 26, 1889.

³ Transactions of the New York State Medical Society, February, 1889.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

O. O. SEARS, M.D., SECRETARY.

REGULAR MEETING, May 12, 1890, the President, DR. W. L. RICHARDSON, in the chair.

DR. E. H. BRADFORD read a paper on

THE TREATMENT OF LATERAL CURVATURE.¹

DR. BOLLES: This paper has been a very interesting one, and one eminently practical in its character. I am very much obliged to Dr. Bradford for bringing the apparatus. Some of the pieces, it seems to me, are particularly important and ingenious. This couch with a roll on it I should think might be useful to children not really subject to spinal curvature, but who have weak backs. In regard to one important piece of apparatus of which the doctor spoke I should like to ask him to be a little more explicit. I refer to the Morris form of chair. Perhaps he will tell us whether there is a child's size of Morris chair in the market.

DR. BRADFORD: I found difficulty in obtaining one, but I finally found one at Keeler's, which, though not strictly speaking a child's chair, could be used for an adolescent.

DR. CABOT: I have nothing to add. I should like to ask if this slope that the Morris chair gives is better than sitting upright. Children are constantly told to sit up straight.

DR. BRADFORD: The old-fashioned straight-back chair was not deep in the seat, and a child could not curl up in it. What is required is an easy chair in which the child with a weak back will be comfortable, and can remain two or three hours without being watched. It is for this class of children that you want a recumbent chair. The straight-back chair does very well for a short time, but in feeble children it would not answer.

DR. WATSON: I would like to ask Dr. Bradford how often lateral curvature occurs as the result of one leg being shorter than the other, a matter about which Dr. Taylor has spoken a good deal formerly, and, if that is ever found to be the case, whether he would not treat that condition by raising the sole of the foot of the short leg. I would also like to ask with regard to the possibility of relapse in case of a moderately flexible curvature in which you have succeeded in straightening the back, and how long should treatment be kept up to ensure against relapse.

DR. BRADFORD: I did not lay much stress on the etiology because that is a long subject and has been recently discussed here. The cause of lateral curvature is the superercent weight falling on the spine held out of line. If one leg be shorter than the other a fixed lateral curvature does not, of necessity, follow. For lateral curvature to result, the condition of the bones must be such as to weaken under superercent weight. Given a case of hip disease or paralysis in which one leg is shorter than the other, a lateral curvature will result if the condition of the bones is analogous to that causing knock-knee.

As to how long treatment should be continued and as to the danger of relapse, no one can, I think, state definitely. The only rule I have is this: If the patient

¹ Publication deferred.

has attained its height as estimated by Bowditch's tables, if the general condition is good and the flexible curve has been corrected, I should say there is very little danger of relapse. If the child is approaching puberty, belongs to a tall family, has grown fast and grown thin, I should give a guarded prognosis as to relapse.

DR. F. B. HARRINGTON: How early in infancy do you see lateral curvature, and is there such a thing as congenital lateral curvature?

DR. BRADFORD: Congenital lateral curvature exists, but is rare. In rare instances there is also a defect in the spinal column. One such case was reported by Dr. Gage of Worcester. The earliest case I have met was in a markedly rachitic child, in which case there was a history of injury at birth from the use of forceps, producing paralysis of the right arm. When the child began to be lifted it sat on one side, and, being profoundly rachitic, a very severe osseous curve had resulted by the time the child was nine months old. Lateral curvature is sometimes seen in children who are carried by the mother on one arm more than on the other. I don't think I have ever seen a case of true congenital lateral curvature apart from the cases in which there is deficiency in the structure of the bones,—that is, where the vertebrae were deficient. I have seen cases called congenital lateral curvature, in which it seemed to me the curvature developed subsequent to birth.

DR. HARRINGTON: Would infants be treated on the frame?

DR. BRADFORD: Yes, and by the avoidance of faulty attitudes, the child should be made to lie so as to make the convexity concave, and on a frame.

DR. NEWELL: I think this is a splendid demonstration, for which we are much indebted to Dr. Bradford. I would like to ask him his opinion about woven wire and felt and leather corsets.

DR. BRADFORD: I should think the woven wire corset might be an excellent appliance. Before it was advertised I had one made. The main requisites for a corset are that it should be light, cheap and suited to the case. I don't see why the wire corset should not be made to answer the purpose. Whether it is cheap I can't say. I don't think it has any great advantages, and I don't think it is inexpensive. I have tried it in only one case. Felt, which was introduced some time ago, is heavier and more clumsy than the leather corset. The reason I have for using leather is that it is light, cheap, and I can get it made. Besides these, Dr. Phelps of New York has used wood-pulp. There is a most excellent corset made in Philadelphia which I think is a form of felt. It is light, extremely hard and rigid. I imagine it may be expensive.

DR. NEWELL: Can these leather corsets be made in Boston?

DR. BRADFORD: A harness-maker on Eliot Street makes them. You send a plaster cast and he makes it of leather from that. The cost is seven or eight dollars, and that is as cheap as anything you can get.

DR. NEWELL: Do you account for the deviation to the right by the muscular element?

DR. BRADFORD: That is a difficult question to answer. I think it is easily explained by the fact that persons use the right arm more than the left. If you watch the attitudes of students writing, you will notice that they all raise the right shoulder, not only because they use the right hand in writing, but because they

can't write very well otherwise. I think that would explain why this is the normal curve.

DR. W. L. RICHARDSON: Has Dr. Bradford noticed whether growing children with lateral curvature of the spine frequently have deformed pelvis, apparently as a result of it?

DR. BRADFORD: I have not made examinations with regard to that point.

DR. RICHARDSON: What would the probable effect be?

DR. BRADFORD: In extreme cases I think such a result might follow; in light cases I don't know.

DR. A. T. CABOT read a paper on

A CASE OF URETERO-LITHOTOMY.²

DR. DRIVER: In this case there was a possibility that the diagnosis might be obscured by the previous history of the patient. As the patient had had perityphilitis and was subject to violent attacks of colic, I supposed, when called, that it was one of his old attacks. I found, however, that it varied very much from them. The seat of the pain was low down, above Poupart's ligament, and passed backwards and upwards, and suggested at once the diagnosis of renal colic, which was made provisionally, although many of the usual symptoms of renal colic were wanting. The fact that he had long continued diarrhoea, at times peculiar attacks of pain, and the fact that his health was deteriorating, suggested the possibility of other things; still the treatment was intended to cover all the possibilities. The first thing one would think of would be the possibility of obstruction. That was eliminated by the examination under ether. Then there was the possibility of aneurism low down in that very region, attended by sciatica. There developed Wednesday, Thursday, and Friday, great tenderness over the sciatic nerve. That might represent the pain that is often felt going down the leg in the case of renal colic. In watching the case we eliminated these things. The pulse kept down until the very last day. The violence of the case surpassed everything which I have seen in the nature of renal colic, as much as the tornado surpassed the gale. I had watched the case from Wednesday to Monday. On Monday the pulse was 76, temperature normal, no special tenderness, and still that sharp tender spot behind and the tender spot on the sciatic nerve,—a condition that made us feel that the calculus was going through; and we decided if the symptoms returned again to call Dr. Cabot. It was a very puzzling thing to the general practitioner up to that time. I examined the urine from day to day, and pus was found every day. The three great factors in this case were the violent pain which was like nothing but renal colic, persistent tenderness at one spot just below the kidney, and the pus from the first. These things, I suppose, were what determined the diagnosis in the minds of the gentlemen who saw the case with us.

DR. ELA: I am very glad to hear Dr. Cabot's report of this very interesting case, and the more so because it verified what we thought was the probable cause. I think he is to be congratulated on the successful issue of the case. It is one of the best operations I ever saw. At the time of the operation the urine contained granular and hyaline casts, and the quantity of pus was fully one-fifth in volume, whereas the next day after the operation, the urine was very

² See page 217 of the Journal.

clear, so that one would think it could not have come from the same patient. A relative of the young man told me that the mother had also passed calculi, and from the size of the stone and its appearance one would think it was of the uric acid variety. Perhaps Dr. Cabot will tell us what the analysis showed.

DR. CABOT: The stone was extremely small, that is, the part removed for analysis. Professor Wood was kind enough to take a little of it and test it, and it proved to be phosphatic instead of uric or oxalic acid, as we expected. The stone weighs only two grains, and the wonder is that so small a stone lodged in one place and staid there so persistently. One reason may have been that the function of the kidney was interfered with by the reflex inhibitory action, and the flow of urine from that side was but slight. I advance that simply as a theory to account for it. The stone is somewhat irregular, so that a little urine might leak by it.

DR. WATSON: Dr. Cabot's paper suggests many interesting questions for discussion, a few of which only I will touch upon, prefacing my remarks by congratulating him upon the success of what, I think, must be called a remarkable surgical procedure. Impacted calculi have been successfully removed from the lower end of the ureter, and of course, their removal from the pelvis of the kidney by nephrolithotomy has been frequent. I do not, however, recall at this moment an instance in which the surgeon has, with intention, opened the ureter below the pelvis of the kidney and successfully extracted stone; and if this is new departure, it certainly establishes a valuable precedent. I wish to note, though I have no satisfactory explanation for the fact, the singular immunity from serious results (presented in some patients) of total, or almost total, suppression of urine in cases of impacted calculus, of which I recall one case in which, with the exception of a few drops of urine in each twenty-four hours, anuria lasted eleven days, the patient showing no urasic symptoms of importance, and making a perfectly good recovery thereafter; and of which a number of similar instances have been recorded.

Another matter in the *diagnosis* of renal calculus, to which I called attention last year, in reporting to this society five cases of renal calculus, of which it was true, is that the urine *may* afford no guide to determining the presence of stone in the kidneys, as it, in the presence of stone, *may* present absolutely no abnormal characters. The importance of Dr. Cabot's operation in such cases as the one he has reported, is enhanced by the knowledge that, should an impacted stone remain for a long period in the ureter, even if finally and spontaneously passed, it may, beyond the damage done to the kidney during its stay in the ureter, cause its still further disorganization by giving rise to stricture of the ureter at the point at which it has rested, as in a case of stricture of both ureters, hydro-nephrosis and death, which I reported here some four years ago.

In general, in cases of renal calculus, in which the stone fails to pass, I think the tendency here, on the part of the general practitioner, and often of the surgeon as well, is to postpone operative interference too long, especially in view of the successes obtained by Mr. Morris, of England, and others who have pursued the bolder course.

DR. NEWELL: I think this is a very brilliant case, and very interesting from its rarity and for a good

many other reasons. I was rather surprised when I saw the calculus. I think it is a very large one to pass through the ureter. I happen to have injected the ureter a good many times, and it seems to me that this calculus in the normal ureter would be a pretty good-sized stone to get through. I always found it hard to get in an injection-pipe of over one-eighth inch. I think one very interesting point is as to the definiteness with which you can locate a stone by pain. I suppose there is never any exception to the rule, that in renal colic, whether in the kidney or in the ureter, the pain is on the side where the stone is found. I would like to ask Dr. Cabot what he thinks of the value of local tenderness as a general guide for the location of a calculus.

DR. CABOT: That pain in the leg is very common with stone in the kidney.

DR. DRIVER: The pain was never in the leg. He had great tenderness on pressure. The factors were tenderness, pain and pus.

DR. NEWELL: I think the case would show that tenderness on pressure may be an important factor in locating the stone.

DR. A. T. CABOT reported two cases of

OLD ANTERIOR DISLOCATION OF THE HUMERUS, which occurred in women of advanced age, both patients being seventy years old. In one the arm had been out for three months, and in the other for nine weeks. These cases were reported in order to draw attention to the value of Kocher's method for the reduction of these dislocations. The manipulation was described as follows: The arm being laid along the side parallel with the axis of the body, the elbow is bent to a right angle, and then, with the fore-arm as a lever, the arm is forcibly rotated outward until resistance is met. Then, keeping the arm still strongly rotated outward, the elbow is carried forward close to the body until it rests over the epigastrium. The hand is now carried to the opposite shoulder, and if the manipulation has been successful the head of the bone is found to be in place. This manoeuvre, as described, can usually in fresh cases be practised without ether, and was recently perfectly successful in reducing such a recent dislocation in a powerful young man. In old cases, when the bone has been out of place for some time, and has become adherent in a faulty position, as was the case in the two old women, the adhesions must first be broken up by forcible rotation and movements in various directions. Kocher's method has the advantage that, while it is usually successful, the operator requires no assistance, and the expenditure of strength is much less than in any of the traction methods.

AMERICAN DERMATOLOGICAL ASSOCIATION.

FOURTEENTH Annual Meeting, held at Richfield Springs, New York, September 2, 3 and 4, 1890.

THE PRESIDENT'S ADDRESS.

DR. PRINCE A. MORROW, President, considered in his address the present position of dermatology in this country. He thought there was abundant cause for congratulation. In 1876 only twelve of our medical colleges pretended to give instruction in this special department, whereas to-day, as he had learned, through

replies to a circular letter, dermatology is recognized in the teaching faculty of eighty-six colleges. This might, perhaps, indicate not true, but in part a mushroom growth, for there are reasons to believe there were many defects in the method of teaching, if not in the qualification of some of the instructors. For successful teaching of diseases of the skin two conditions were necessary, namely, capacity in the instructor, and abundance and variety of clinical material. He doubted the capacity of the teachers in some of the schools; while it was a certainty that in many the clinical material was inadequate. In some of the large cities this material was so dispersed as not to be available. For a thorough study of cases and results of treatment there should be a central hospital. With regard to methods of instruction, dermatology should be retained for advanced students in medical colleges, and its study should be obligatory. If there were not abundance of clinical material, he thought it a question whether it would not be best to leave this branch of medicine to post-graduate schools.

Speaking of nomenclature, he thought there was something of a neologistic craze, which should be discouraged. An essentially new disease, it was true, required a new name, but many of those introduced the past few years would not likely prove permanent. He also suggested the propriety of introducing some special subject for discussion at each of the annual meetings.

OBSERVATIONS ON PRURIGO, CLINICAL AND PATHOLOGICAL.

DR. R. W. TAYLOR, of New York, in a paper on this subject, said that Dr. Campbell read a paper at the first meeting of the association, and it appeared then that there were only six cases in the combined experience of all present. Interest had been excited anew since the reading of Dr. Zeisler's paper last year, in which he said he had seen twelve cases in Chicago. Others present brought up the number to eighteen. But he believed the disease to be more common in America than these figures would indicate; that many cases were probably mistaken for eczema, scabies, pedicularis, impetigo, etc. The general profession had no plates to compare cases with, and to supply this want he gave the history of a case in detail, with photographic illustrations.

Some points in the history of the case were as follows: A girl, aged nine years, healthy when the disease broke out, of healthy parents, who were in good circumstances and in healthy surroundings. When four years old the girl began to scratch, and the appearance of little red pimples on the face, forearms and legs, led the parents to attribute them to mosquitoes (they were then spending the summer on Staten Island). The affection continued to recur at certain seasons, worst in the winter, every year until her visit to Dr. Taylor which was in January last. The expression of the face was rather dull, the color of the typical white, somewhat ashy hue, of prurigo. Over the forehead, temporal region and cheeks was a copious eruption of small conical papules, some whiter than the skin, others of rather yellowish hue, and others capped with a blood-crust, the result of scratching. They were not developed on the site of sebaceous glands. There was no marked dryness or want of vitality in the hair, as he had seen in severe cases. There was slight mealy desquamation in the scalp, as

pointed out by Hebra. The eruption did not appear on the neck and nucha, but began to develop where the shoulder merged into the neck. The principal eruption was on the back of the hand and forearm, and on the outer and anterior surface of the legs, where the papules were as large as a split pea; some on the arm, buttocks and thighs. They were scattered without semblance of groupings, conical in shape, firm, some of the color of the skin, others of reddish hue, others capped with a blood-crust. Variations in the appearance of the disease were observed and described under certain complications, and shown in photographs.

Dr. Taylor also read the report of Dr. Ira Van Giesen, who had studied sections under the microscope.

A CLINICAL STUDY OF PRURITIS HEMIALIS, WINTER ITCH, FROST ITCH, ETC.

DR. W. T. CORLETT, of Cleveland, read the paper. The affection under consideration was first pointed out as a disease, *sui generis*, by Dr. Duhring, and about the same time by Jonathan Hutchinson, since when it had been little written about. It is seldom seen save in certain localities; is seen in the Southern States only during cold waves; is seldom encountered in the clinics at London; on the southern border of Lake Erie. The writer's home being Cleveland, he could say the disease was well defined and not uncommon. He related three cases illustrating different points of interest connected with the disease. In one it had recurred during the frost season for over twenty-two years; in another the eruption had the appearance at times of urticarial patches, two or three inches in diameter, confined to the extremities, subsiding in about ten minutes, leaving for a while a dark, yellowish spot. The third case was in a negro, showing that that race was not exempt. The writer's experience went to show that the state of the general health had no appreciable effect on the pruritis; that the local irritation of the clothing, although capable of aggravating the malady, was not, of itself, able to produce it; meteorological conditions appeared to be the main etiological factors. These were most potent with a low temperature, low humidity, and a wind blowing from the northwest. These influences were favorable to evaporation, and the low temperature reduced the glandular activity of the skin to the minimum. As a consequence the skin became harsh, the peripheral nerves were irritated, and the disease was induced. He did not think the primary irritation could be central, else in time it would give rise to a less fleeting disease. It was not infrequently associated with other neuroses of the skin. These neuroses having, however, no influence, save, probably, in showing the peculiar susceptibility of the nervous system.

The treatment was largely palliative. Change of climate was best if possible. Internal remedial medication seemed to have little effect. Locally he had used with advantage ichthyoil and resorcin. Choose a warm and moist climate.

A STUDY ON PRURITUS.

DR. E. B. BRONSON, of New York, from a more or less theoretical and argumentative paper on this subject, thought he was warranted in drawing the following conclusions:

- (1) That there is a sense of contact independent of the sense of prehension.

(2) That this sense of contact is the sense disturbed in pruritis.

(3) That it concerns, primarily, simple cutaneous nerves, or nerve endings situated superficially and probably in the endermis.

(4) That disturbance in pruritis is of the nature of dysesthesia due to accumulated or obstructed nerve irritation, excitation with imperfect conduction of the generated force into correlated forms of nerve energy.

(5) That scratching relieves itching by directing the excitation into freer channels of sensation, sometimes, especially when severe, substituting for the pruritus either painful or voluptuous sensations.

(6) That the voluptuous sensations which may attend pruritis are a manifestation of a generalized aphrodisiac sense, representing a phase of common sensation that has its source in the sense of contact.

CASES OF CUTANEOUS TUBERCULOSIS, WITH HISTOLOGICAL STUDIES.

DR. J. T. BOWEN, of Boston, read a paper containing the histories of a number of cases of cutaneous tuberculosis, together with histological studies, and expressed the view, also entertained by Dr. White, through whose courtesy some of the cases were seen, that several affections of the skin not yet recognized as inoculable would be proven to be so, and their relation to tuberculosis be demonstrated.

REMARKS ON THE TREATMENT OF DERMATITIS HERPETIFORMIS.

DR. L. A. DUHRING, of Philadelphia, said that the several papers published by him on dermatitis herpetiformis during the past five years had contained no reference to treatment. Having now reported ten or twelve cases, it seemed appropriate to now speak of the treatment of this exceedingly rebellious disease. Each group of cases based on the etiological factors at work, required special handling. A speedy cure was not to be looked for. It must be remembered that the disease, as a rule, was multiform in character, and the several varieties naturally called for different formulae, especially as to the strength of the remedy. His experience had been that milder remedies were called for in the erythematous than in the vesicular and bullous forms. A difficulty to contend with was the tendency of the disease to repeat itself, a new crop coming out before the older disappeared. Almost all his cases had been chronic, and previously undergone all manner of treatment. He had long since arrived at the conclusion that most benefit was to be derived from stimulating applications, especially those which acted as revulsives — tar, carbolic acid, sulphur, thymol, ichthyol, resorcin, etc. That which had proved of greatest value in his hands had been sulphur ointment, two drachms to the ounce, applied by thorough and long rubbing so as to make a positive impression upon the skin, causing, as it were, local shock. Special emphasis was placed upon the manner of making the application. Internal remedies had proved of little avail in most cases.

A CASE OF ATROPIA MACULOSA ET STRIATA FOLLOWING TYPHOID FEVER.

DR. F. J. SHEPHERD, of Montreal, presented the history of the case, illustrated by photographs. It occurred in a boy of fifteen years, who was brought to

the hospital with typhoid fever. During the course of the disease he was delirious, and had epileptic attacks. Macular lines formed, extending across the patella, and around the anterior aspect of the thigh to near the middle, some being several inches long. They were of reddish color, became paler, not distinctly shiny, and were grooved. The boy left the hospital without his knowledge. The interesting point in the case was the occurrence of the atrophic lines in a boy during acute fever. He did not think their presence could be accounted for as they were in edematous subjects, by stretching. There seemed to be a nerve element in the causation.

IMMIGRANT DERMATOSES.

DR. J. C. WHITE, of Boston, read a paper with this title. It included an account of the affections of the skin, induced, (1) By life on shipboard; (2) Those induced after arrival, by conditions not existing previously; (3) Diseases of the skin seen more frequently in other countries than in America.

Conditions on shipboard tending to induce skin affections were, mental depression on leaving home, seasickness, filth and foul air, constipation, inability to take exercise, contact with others having contagious disease. It was not uncommon for young persons to come a week or ten days after landing with an articular, or bullous eruption. Vaccination on shipboard not infrequently left a local sore of wider area than usual, due perhaps, to depressed state of health, and the fact that the patient had not been re-vaccinated since childhood. Under the second head the causes were new agencies not existing at home, among them being mosquitoes. Under the third head, imported affections, the most common was scabies. Among others was that rare affection, melanosis lenticularis progressiva, none of the cases here, as far as he knew, being in native American stock; prurigo might also be regarded as an imported disease, and was seen scarcely elsewhere than in cities with a large foreign population, like New York and Chicago.

The relative prevalence of vegetable parasitic affections among us was likely to be largely influenced by immigration. *Tinea favosa* is more common in countries from which we receive many immigrants, than here. The same was true of tubercular affections of the skin, and he was disposed to regard lupus, scrofuloderma, scrofulous gummatum, tuberculosis verrucosa, etc., as identical affections, inoculable and auto-inoculable. Leprosy was another imported disease, coming from many sources.

In conclusion the author suggested the propriety of memorializing the national government with regard to carrying out the following measures:

(1) To cleanse all immigrants of animal parasites on landing, by treatment of person and clothing.

(2) To retain in quarantine all immigrants with other contagious diseases, including venereal affections, a sufficient time for treatment.

(3) To return to their homes all persons affected with such contagious disease as it is impracticable to treat in such manner, as leprosy, tuberculosis and advanced syphilis.

(4) To provide for efficient medical inspection at foreign ports of immigration, with the power of arresting the importation of dangerous diseases into this country.

**A CASE OF SECOND INFECTION WITH SYPHILIS, AND
A CASE OF SYPHILITIC INFECTION IN A PERSON
HEREDITARILY SYPHILITIC.**

DR. R. W. TAYLOR, of New York, gave detailed histories of the two cases which had come under his observation within a year. The first was in a sickly looking woman, aged thirty-eight, who entered Charity Hospital in January last. Eleven years ago she had syphilis, having had hard swelling of the external genitals, enlargement of the glands, eruption shortly afterward all over the body, headache at night. The second year she had rheumatoid pains, mucous patches, tubercular syphilitides; the third year, serpiginous syphilitides, etc.

She married and gave birth to two weakly children which soon died. Her husband dying, she again lapsed in virtue, and turned up in Charity Hospital in January last, completely broken down in health. There were typical miliary syphilitides scattered over nearly the entire surface. All the ganglia were markedly enlarged. There were mucous patches of the tongue and mouth, and there were evidences of alopecia. She suffered pain in the joints, worst at night. The second attack was much more severe than the first. She was improving under mercurial treatment.

The second case was one of acquired syphilis in a person hereditarily syphilitic. The woman came to him first in 1879, aged nineteen, when he treated her for destructive syphilitic sore on the face, arising from hereditary syphilis, a clear history of which was afterward given him by her mother, who acquired syphilis three months before the child's birth. The child had a rash, condylomata lata, snuffles, was weakly, etc. Five years after his patient's first visit, 1886, she returned, and had then maculae roseola and scaling syphilitides all over the body; condylomata of the genitals, mucous patches of the pharynx, etc. The infection began in the right labium, and was contracted from the husband. The glands were all enlarged; there was alopecia. She had since been cured. The author reviewed and criticized published cases which were few.

ELECTROLYSIS IN THE TREATMENT OF LUPUS VULGARIS.

DR. G. T. JACKSON, of New York, in a paper on this subject, said the advantages which electrolysis offered in the treatment of lupus vulgaris compared with other and older ones were as follows:

(1) It is comparatively painless, and there is no need of putting the patient under an anesthetic.

(2) There is not the slightest loss of blood, and thus there is no dread of a surgical operation.

(3) The patient is not kept a moment from his regular business. There is no deformity caused by the treatment. There is no after treatment or application to mar the appearance. He is also spared the discomfort of a swollen face and eyes, the ordinary attendant on the arsenical or pyrogallic acid treatment.

(4) The treatment goes to the root of the disease, to the bottom of the tubercle, with far more exactness and less damage to the surrounding skin than any other caustic or surgical method.

(5) The scar left is smooth and not unsightly.

(6) The result obtained is as good, if not better, than that by any previous method. He felt sure the

members would have cause to be pleased with the method, should they give it a trial.

PLICA.

DR. H. W. STELWAGON, of Philadelphia, showed photographs of a case which he saw a few months ago. He was not sure that plica was the right name for it. The woman (Irish) came to be treated for acne, and called his attention to a lock of hair, as thick as one's thumb, springing from the middle of the occipital region, closely matted together, and falling as low as the ankles, terminating in a brush-like end. It was not sticky; had begun to grow four years before; had no apparent cause. The rest of the hair fell over the shoulders, and was not matted. There was no filth.

THE TREATMENT OF ERYSIPELAS.

DR. C. W. ALLEN, of New York, based this paper on the results of treatment, during the past two years, of 419 cases in the hospitals on Blackwell's Island, not under his care, and 47 cases in his own practice during the same time. Of the former, 21 died; average stay, 22 days; facial erysipelas in 267. Of his own 47 cases, 24 were facial; deaths, four; average stay, over seven days. The treatment employed was various, but was principally local, consisting in applications of different kinds. Dr. Allen thought that, although tending to pursue a definite and usually favorable course, the disease could be checked in its course by treatment. Among the applications were boracic acid, iodine, resorcin, bicarbonate of sodium, ichthol, collodion, aristol, scarification with the knife, and plaster strips. He was disposed to think favorably of scarification and adhesive plaster, separately or combined in the same case; had tried them in only about two cases.

NOTES ON PILOCARPINE IN DERMATOLOGY.

DR. H. G. KLOTZ, of New York, in this paper first gave a review of the history of pilocarpine in dermatology. He said it had not met with the acceptance which one might have supposed if its therapeutic virtues had been at all proportionate to its diaphoretic qualities. The author had employed this remedy in a few cases, including some of eczema, pruritus of the anus, and affections with dryness and irritation. The result had been such as to encourage him to give it a further trial. It might be given internally or by hypodermic injection, small doses, long continued. A tenth of a grain was likely to prove sufficient to keep the skin moist.

ARISTOL.

DR. C. W. ALLEN, of New York, read a paper giving the results of his experience with this new remedy, and summed up with the statement that it seemed to possess valuable cicatrizing, granulating and stimulating qualities, was void of the objectionable odor of iodoform, and seemed valuable in certain cases.

**THE TREATMENT OF DERMATOLOGICAL CASES BY
SULPHUR WATER, AT RICHFIELD SPRINGS.**

DR. C. C. RANSOM, physician in charge of the new bathing establishment, by invitation, gave the results of treatment of dermatological cases there. Since the new bath had been completed, during the summer twenty-two cases had been treated, including nine of eczema, one of psoriasis, four of seborrhœa, one of pruritus, two of urticaria, etc. There was marked improvement in nearly all of these cases, and in some

cases a cure. The baths were of a temperature usually from 85° to 106° F., lasting from seven to fifteen minutes. A longer stay in the sulphur bath had a depressing effect lasting some hours.

The Association adopted resolutions expressing appreciation of the very extensive and complete equipment for water treatment established by Mr. Proctor at the springs.

Among those taking part in the discussions on the papers, besides the readers named, were Drs. Hardaway, of St. Louis; J. E. Graham, of Toronto; James S. Howe, of Boston.

Dr. Greenough, of Boston, was elected President; Dr. L. N. Denslow, of St. Paul, Vice-President; and Dr. G. T. Jackson, of New York, Secretary and Treasurer.

Recent Literature.

Terminologia Medica Polyglotta. A Concise International Dictionary of Medical Terms. Compiled by THOMAS MAXWELL, M.D. (Camb.), B.Sc. (Lond.), F.R.C.S., (Edin.). With the assistance of Dr. E. de la Harpe, Lausanne, Privat Docent in the University of Geneva; Dr. Rafael Hernandez y Barrios, Vallecas, late Alumno Interno of the Hospital del niño Jesús, Madrid; E. M. Holmes, F.L.S., Curator of the Museum and Lecturer in Materia Medica to the Pharmaceutical Society, London; Dr. Kamocki, Ordinator of the Ophthalmic Clinic, Warsaw; Dr. J. Mommsen, Kaiserslautern; Dr. F. Reiche, House Surgeon of the German Hospital, London; Dr. A. Rubino, Editor of *La Riforma Medica*, Naples; J. Bland Sutton, F.R.C.S., Hunterian Professor of Anatomy, Royal College of Surgeons, etc., London; Dr. St. Zaleski, Professor of Chemistry in the University of Tomsk.

Latin — English, French.

English — French.

French — Latin, English, German, Italian, Spanish, Russian.

German — English, French.

Italian — English, French.

Spanish — English, French.

London: J. & A. Churchill. Paris: G. Masson. Philadelphia: P. Blakiston, Son & Co. 1890.

In this volume of 450 pages the editor has sought to meet the needs of medical men wishing to read the medical literature of other countries. For this purpose he has selected French as the key language; that is, as will be seen by the scheme on the title-page quoted above, French is the one language all of whose terms are rendered into each of the various other tongues, and the terms of every other tongue (besides whatever other language they may be rendered into) are always translated into French. For example, an Italian reading German wishes to know the meaning of the word *Leiste*. Referring to it, he finds *groin* (English) and *aïne* (French). If he does not know either of these words, he looks under the French term *aïne*, and finds its Italian synonym *inguine*. The English reader is, however, treated as well as the French; for while the latter is the key language in the sense above indicated, yet all words of every tongue are rendered also directly into English. The Spaniard and the German, however, like the Italian, may have to

employ the medium of the French to get their foreign words rendered into their own vernacular.

A single alphabetical arrangement for all languages is adopted, thus avoiding the necessity of repeating many words which differ in different languages only in their terminations; so that the 25,000 words which the dictionary contains really represent much more than that number of terms to the intelligent reader.

While all French terms are translated into Russian, a Russian-French portion has not yet been arranged for.

The great compactness and handiness of the present volume, and its serviceable and attractive binding, will contribute, with its other useful qualities, to make it a valuable book to all who attempt to follow the medical literature of other countries.

May's Diseases of Women, being a Concise and Systematic Exposition of the Theory and Practice of Gynecology, for the Use of Students and Practitioners. Second Edition. Revised by LEONARD S. RAU, M.D. Philadelphia: Lea Brothers & Co. 1890.

The second edition of this work is a distinct improvement on the first. Though only five years has elapsed since its first appearance, the science and practice of gynecology has made such rapid strides that a good many changes have been necessary. Chapter I., on Methods and Instruments of Examination, and Chapter VIII., on Diseases of the Fallopian Tubes, have been re-written. Illustrations to the number of thirty-one have been inserted, which is a marked improvement. A still larger number would, in our opinion, increase the value of the book.

— We note in a lay contemporary the following story, told at a dinner, it is said, by a prominent surgeon, at the expense of a brother practitioner who was present.

Calling the attention of all present to the young man, he said: "I have a good joke on John. He had a very bad case of pneumonia which he had treated very well. His patient pulled along nicely, and was finally nearly well. John told him so, but said that in three days he would call again to see if anything further was needed. In three days he called. His patient's brother met him at the door with a long face and said, 'I have sad news for you doctor, brother is dead.' John stood there for a minute and thought, 'Well, how am I going to get out of this. I have got to let myself down easy.' He began to run over in his mind all the causes that might produce a sudden death, and finally decided on one that he thought would do. He said, 'Such things happen now and then. Sometimes one cause and sometimes another brings it on. Now, I expect that, with your brother, a clot of blood suddenly formed in the heart and killed him.' He rattled this off, and kept talking for several minutes without giving his listener time to say a word. He stood with his mouth open, and gazed at the doctor as the latter fired technical terms at him. Finally, as John stopped to take a breath, he said in the most serious tone: 'No doctor, that ain't what killed brother. He went down to the canal and fell in and was drowned.' John did not say a word, but left, and has never had the heart to send in his bill."

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THE PHYSICAL SYMMETRY COMPETITION AT CAMBRIDGE.

A MATTER of much interest to students of the human figure has been the award by Dr. Sargent, of the Hemenway Gymnasium of Harvard College, of certain prizes by him offered for examples of symmetrical physical development, in accordance with his tests therefor as explained by him in a series of articles during the last three or four years in *Scribner's Monthly* and elsewhere.

The principle on which Dr. Sargent bases his estimate of physical symmetry is this: A very large number of men and women are subjected to the usual series of anthropometric measurements. These data establish the physical measurements of the average man. Each measurement for any individual bears a certain relation to this average standard. For example, A's height is 70 inches. Reference to the standard shows that (say) 85 per cent. of all fell under 70 inches in height. A's height then is given a so-called "percentile" value of 85. Not that it represents that per cent. of a maximum or an ideal height, but that 85 per cent. of all measured were of that height or less, and only 15 per cent. were taller. In like manner A's percentile value for weight, height sitting, height of pubic arch, girths of chest, waist, hips, thighs, arms, and so on for a long series of measurements are determined. A chart for A is then platted, the abscissæ representing "percentile values," and the co-ordinates the various measurements taken. The former lines are so ruled that each space represents 2 1-2 per cent. except above 90 and below 10, where the lines represent 1 1-4 per cent.

It is found, for most individuals, that this chart presents a very erratic curve. Starting for a given weight, for example, at a percentile value of 70, a man's height may represent 90, while some poorly-developed part, as the upper arm, the chest or the thigh, may deflect his curve down to a percentile value of 20 or 30; or on the other hand, an overlarge abdomen may deflect it in the other direction to 90.

The ideal man or woman, according to this scheme, is one whose curve approximates a vertical line running down through all the measures at a constant percentile value, which for the average stands at 50 per cent. But for the determination of individual symmetry, it matters not at what point of percentile value the curve starts,—that is, a man may be short or tall, heavy or light,—but whatever his percentile value in one of these measurements, the same value approximately should be maintained for all the other measurements to which he is subjected; in other words, his parts must all be of uniform excellence.

Some three years ago Dr. Sargent offered quite a large sum in prizes, for physical symmetry. A first prize of \$500 each for a perfectly symmetrical man or woman, that is, for one of either sex whose line thus laid out on a chart should be a perfectly straight perpendicular, failed to discover any such, and it was therefore not awarded. A second prize of \$200 was offered for any individual whose line of symmetry showed no divergence from the vertical greater than five contiguous lines; this also failed to find a successful applicant. He has just awarded, however, two third prizes of \$100 each to the man and woman respectively, who have the most measurements within any five contiguous lines, provided none of the measurements depart more than five lines further from these lines on either side.

These prizes were offered long enough in advance for any competitor, whose deflections as shown by his chart were in measurements of girth, to correct them by systematic physical culture, so as to bring them into closer conformity with the average of his class—in other words, to straighten the curve on his chart.

The successful man in this competition is a senior in Bowdoin College, one who has been a prominent oarsman during his college career. The successful woman is also one who has given special attention to physical training as a student and teacher. It is announced, however, that the woman who came second on the list for symmetry is a saleswoman of Boston, who presumably had not had the benefit of any systematic training, but whose physical perfection was discovered by chance when she was visiting the gymnasium as a guest.

The measurements made by Dr. Sargent upon which he bases his estimate of the ideal form, must be very numerous, having now extended over some twenty years. They are mostly made from the student-class, and presumably include few representatives of any of the handicrafts. If the latter were included it is evident that the number measured must be very large, and must include all different trades, for a preponderance of any sort of handicraft would give an undue prominence in the average to some special group of muscles.

The correctness of this principle of estimating physical excellence will appeal to each individual according as he admits or not the coincidence of the ideal human form with the *average* human form, as determined by such measurements.

It would be a matter of much interest to know, for instance, how far those artistic representations, which

have always been held to be ideal specimens of bodily perfection, such as the Apollo Belvidere, the Faun of Praxiteles and the Venus of Milo, would give the "vertical line" on Dr. Sargent's charts. Whether, in other words, these specimens of ideal humanity would correspond to the averages of all measurements of actual humanity, and if not, which of the two represents the ideal of perfection.

It also naturally occurs to one that the waist measures of women, many of whom have practised tight lacing, would show even if they had no inheritance of small waists from generations of lacing mothers, an average less than the ideal, and that therefore a symmetrically-developed woman would be likely to depart at this point of her line from the curve of the average. But Dr. Sargent says that "as women are born of the same parents that have produced men, so their measurements, *en masse*, are as true to nature as men's are; and though the normal standard for women is low as compared with men's normal, and both below what they should be, in the opinion of the idealist, still we cannot help thinking that they form a more reliable standard for comparison and better models to build from than any artificially constructed normal, though it may have the lines and proportions of a paragon."

The physician will hardly admit the infallibility of "the vertical line" which Dr. Sargent claims "is the physical sign of health and longevity, of perfect structure and harmony of function," for by his charts one of Stanley's dwarfs might show an ideal symmetry, while a blacksmith by reason of his trade would show a divergence in his line of measurements from the average on the points representing the deltoid and biceps development. Yet no physician would say that in the matter of health, longevity, general usefulness and practical perfection of physical make-up, the latter might not be superior to the former.

In fact, all specialization into crafts and trades is likely to militate against the ideal symmetry which Dr. Sargent seeks. We cannot but express our admiration, however, for the ingenuity and patience with which this observer has explored this most fascinating subject, and our appreciation of the good results which may be expected to follow if persons of both sexes in the formative stage of their development can by use of these charts be aided in developing those portions of their physical structure which depart most widely from the type of their kind, and from the other portions of their own bodies.

ANTISEPSIS AND ASEPSIS IN SURGERY.

THE paper read by Lister "On the Actual State of Antiseptic Surgery" at the Tenth International Congress, was remarkable as indicating certain changes in his practice in conformity with a more extended experience in antisepsis. He states that he had given up the spray some years ago; he now considered it of value at most, only for the continuous disinfection of the operator's hands. It might easily do harm, be-

cause the motion of the air produced by it, might carry off germs with it, and convey them to the wound, not to mention that the use of the spray sometimes led to the neglect of other antiseptic precautions. He advised the leaving of complicated contusion wounds open at first, having been disappointed in the results of complete closure under antisepsis. He declared his preference for sublimate over all other antiseptics, and advised the use of dilute solutions (in some cases 1 to 10,000) to avoid irritating the wound surfaces as much as possible. In operations in the pleural cavity, drainage was necessary, as well as the antiseptic bandage.

At the recent meeting of the French Association for the Advancement of Sciences, (Session of Limoges, August 13th) Terrier, of Paris, read a communication on "Antisepsis and Asepsis in Surgery." Like Lister, he has abandoned the spray, or if he uses it at all, it is before abdominal operations, when he "pulverizes" a certain quantity of water in the operating room to facilitate the disappearance of the particles of dust contained in the air.

As antiseptic, he employs exclusively the bichloride of mercury, a 1 to 1,000 or 1 to 2,000 solution. With these solutions he washes the part that is to be the seat of the operation; his own hands and those of his assistants, after having previously been scrubbed in hot soapsuds, and the nails scraped, were washed in the same solutions. The sponges are boiled, and otherwise rendered aseptic.

For ligatures, he employs only pressed silk, boiled before each operation in a 1 to 1,000 bichloride solution.

All the instruments except the bistouries, are sterilized by dry heat, the dry stove of Poupinel being employed for this purpose; in this apparatus the instruments are kept without injury for fifteen to thirty minutes at a temperature of 160° to 180.6° C. As for the cutting instruments, they are first soaked and washed in chloroform, then boiled in sterilized water. The compresses which serve to protect the parts surrounding the field of operation, to cover coils of intestines, etc., are sterilized in the autoclave at a temperature of 120° C., according to the directions of Pasteur; before being used, if found too hot, they may be dipped into tepid water which has been boiled and thus sterilized.

Terrier says that by means of these precautions he has performed a great number of grave operations (ablation of abdominal tumors, cholecystotomies, gastrotomies, etc.) with no untoward result.

As for the dressings which he uses, they are extremely simple. He employs exclusively sterilized wadding, — not antiseptic, but prepared by heating in the dry stove, according to the method of Quenu.

MEDICAL NOTES.

— Dr. S. Weir Mitchell, of Philadelphia, is said to have recently received from a female patient the sin-

gular present of a cord of white-oak wood, chopped down and sawed up by her own hands. He had recommended to her an active out-door life in the woods for nervous invalidism. She had followed his directions, with results of which the cord of sawed wood was one of the evidences.

— Press despatches announce that Dr. Henry Muirhead, the late President of the Glasgow Philosophical Society, has bequeathed the sum of \$125,000 for the erection and endowment of a college, which shall be devoted entirely to the instruction of women in the theory and practice of medicine, surgery, dentistry, electricity and chemistry. It is said to be highly probable that some of the professional chairs, at least, will be filled by men.

— A feuilletonist, in a daily contemporary, speaks of the waiting-room of a busy doctor as usually containing one copy of a morning paper, several of last month's issue of the same paper, and half a dozen well-thumbed comic periodicals which were crisp and bright and snappy some time before the war. It is a pleasure to enter a medical man's room and find a very different arrangement. He adds that he was kept waiting lately for ten minutes in the outer office of two doctors who have a "Box and Cox" tenure of the premises. Several morning papers were on the tables and couches, and upon the walls were some excellent engravings of pictures which dealt with the more pathetic and humane side of a physician's life. There was a "Physician of the Soul," in a French picture, riding upon a donkey and hastening slowly over the snow-covered mountain at midnight. And there was the "Physician of the Body," mounted on a sturdy pony, making his way over the same mountain. The body evidently had received earlier attention than the soul. There was something in the little pictures to make one think, and perhaps to doubt, whether the moral was based upon French reverence or irony.

— The *Gazette Médicale de Strasburg*, July 1, 1890, contains the particulars of the successful operation by Dr. Schmeltz of Nice, of a complete extirpation of the mamma, performed upon a single woman aged twenty, during hypnotic anesthesia. The suggestion of painlessness lasted not only through the period of a slow and careful operation, but through the following night.

— A thunder storm is generally believed to be a bad thing for a dairy. An Italian *savant*, Professor G. Tolomei, has lately made some experiments on the relation of electricity to the souring of milk. He found that the passage of an electric current directly through the milk not only did not hasten, but actually delayed acidulation, milk so treated not becoming sour until from the sixth to the ninth day, whereas milk not so electrified became markedly acid on the third day. When, however, the surface of a quantity of milk was brought close under the two balls of a Holtz machine, the milk soon became sour, and this effect he attributes to the ozone generated.

— It has often been said that the greatest of the gifts of God which take the form of genius—I mean oratory—is the most potent of all for immediate effect, but most transitory for fame; and so it is with the sister histrionic art. The dead printed matter (all that we have left of John Bright) gives not the slightest idea of the great artist he was. The phonograph may alter all this, and the orators of the future may enthral audiences as much as the skill of Leonardo captivates you in the chapel at Milan, just as it could have done four hundred years ago. We have no such promise for the fame of the surgical artist, for he and his handiwork perish alike, leaving nothing but the bald and printed statement of cases. The limner's work lives almost for all time. We have only one comfort. In the days which Edward Bellamy predicts, and for which William Morris pines, the limner and the surgical artist will be the only highly-paid craftsmen, for their art will remain something unapproachable by mechanical contrivance. (This may be or may not, but it is a compliment of no small excellence that so great an authority ranks our craft so high.) — *Lawson Tait's Address in Surgery at the British Medical Association.*

— A young man, "a wayfarer," called not long since at the house of the German Lutheran minister in a Pennsylvania country town, and asked for supper and a place to sleep. The minister was absent. His wife gave the stranger supper, and sent him to bed. He did not complain of being sick. During the evening the clergyman returned. In the morning, as the man did not respond to the servant's call, the minister went to the stranger's room, and found him dead. A physician then being called, found that the man had died of small-pox.

— The *Medical Record* having recorded a case of tobacco smoking at four years, a correspondent lowers the record by adducing an instance of a child, who, at three years of age began smoking his mother's pipe, "and much preferred a cigar to a stick of candy." Counter-irritation of the seat of the patient is suggested as an appropriate treatment for such cases.

— An Italian correspondent writes to the *Lancet*: "An occurrence as strange as it is tragic is just reported from Sicily. At Milazzo, a seaport of that island, a barque had put in after a voyage from Genoa, having in her hold, by way of ballast, a number of wine-butts which, encrusted on their insides with tartrates, had, to give them the necessary weight, been filled with salt water. On coming into harbor these butts had to be emptied before refilling them with wine, and for that purpose one of the crew, having raised the trap-door admitting to the hold, went down to tap them and run their contents through the drain-holes into the sea. No sooner had the bungs been knocked out than forth rushed a poisonous gas, which took the man's breath away and made him fall, a corpse, into the escaping salt water. In ignorance of what had happened, a second mariner, then a third, and finally a fourth went below — each, in turn, to be asphyxiated

instantaneously, and to fall headlong into the salt water, now of some depth in the hold. As the butts continued to empty, the poisonous gas increased, and the captain, wondering that none of the four men reappeared, went, out of curiosity, to the trap-door, only to receive a tremendous rush of the gas in his face, and to fall below, asphyxiated and drowned. The cabin-boy, the sole survivor out of a crew of six, seeing what had happened, shouted widely for help to the bystanders on the quay. Assistance soon came, and the stifling fumes, by this time escaped or so diluted as to be innocuous, admitted of the newcomers looking down into the hold. There were the five men quite dead floating in the water. The corpses were hoisted up with ropes, and the medical officers, who had now arrived, pronounced them past recovery." The explanation offered as to the character of the asphyxiating gas is by no means satisfactory.

—The irreverent Bill Nye has been parodying one peculiarity of Stanley's book. In a syndicate letter he narrates his experience as "Chief of the Rear Guard of the Emen Tuteweller Relief Expedition," the object of which was to relieve Emin Tuteweller, who was lost somewhere in the jungles of Coney Island or Far Rockaway.

He writes: "We had only proceeded a little way to the westward, when one of our Wangwana was taken with violent retchings and paroxysms, caused, as I afterwards learned, by over-eating the luscious, but unripe dingle dangle fruit of the Island, which grows in great abundance to the southward, and resembles our American popcorn ball. I administered a box of large navy blue pills made by a dealer on Broadway, whose name and check I did not get in time for use in this report. These pills are about the size of a brass thimble, and I think are called the ne plus ultra, or seek no further pill. It is by far the most faithful and painstaking pill, I think, that I ever used in my African explorations. No matter how far I would go into the interior, this pill was there, like my good angel, urging me and cheering me to go still further."

NEW ENGLAND.

—Over \$25,000 have been subscribed for building the proposed hospital in Waltham, Mass.

—The trustees of the Massachusetts Hospital for Dipsomaniacs and Inebriates, have chosen Dr. Marcello Hutchinson superintendent. He is now the first assistant physician at the State Lunatic Hospital at Taunton. He will close his work there and begin his new duties as soon as possible. The work of preparing plans for the hospital buildings will be entered upon at once, the design of the board in selecting a superintendent at this time, being to have his advice and experience in the matter of construction. Dr. Hutchinson is about forty-one years of age. He was born in Wakefield, Mass., graduated at Harvard College in 1872, and at the Harvard Medical School in 1877, when he at once went to the State Lunatic

Hospital at Taunton as second assistant, and was advanced to the position of first assistant in 1885.

NEW YORK.

—The last monthly bulletin of the State Board of Health states that there were 11,083 deaths reported in the State in the month of July; which is 88 above the average for the last five years. The deaths under five years of age were 2,609 in New York and 1,384 in Brooklyn. July has, uniformly, the largest death-rate of any month in the year. For the past five years, according to the bulletin, the average number of reported deaths per month has been 7,864; while that of July has been 10,252. The infant mortality is also highest in July; more than half of the deaths being of children under five years of age, while the average of the rest of the year is about one-third. For July of this year the infant mortality is a little below the average, but is much higher than in June. A little more than 25 per cent. of all deaths are from diarrhoeal diseases; which is lower than the average by about 5 per cent. Of the 2,864 deaths from this cause, 2,393 occurred in 26 cities, having an aggregate population of 3,483,000; 285 in 106 large villages, having a population of 692,000; and the remainder in the rural parts of the State. Diphtheria is reported as prevalent at Malone, and abating in Glens Falls. The number of deaths from it is less than in June. A few deaths have been reported as due, in part, to epidemic influenza. No small-pox exists anywhere in the State. Whooping-cough is prevalent at Hudson, and has caused a considerably increased death-rate in numerous localities. Five deaths occurred during the month from lightning stroke.

—For the first time in the history of the new Capitol at Albany, the members of the legislature at the next session will sit in comfort, with safe surroundings, and in a pure and healthful atmosphere. The building is, at the present time, undergoing thorough renovation from cellar to roof, and a large force is at work in correcting the glaring sanitary defects that have hitherto existed in it. It seems ridiculous that, in a building so expensive as the Capitol, and with all the architectural talent that has been employed upon it, the question of fresh air should have been totally neglected. In a few rooms, it is true, there has been a system of putting fresh air in, but in none has there been a system of putting foul air out. In the western end imposing fresh-air shafts have been introduced, but their efficacy has been a good deal impaired, to say the least, by the fact that the windows of half a dozen water-closets have opened into them. The building is well supplied with handsome fire-places; but hitherto it has been impossible to use them, as they have all opened upon blind flues. In several instances this condition of affairs has been remedied, and the senate-chamber, which has two enormous fire-places, will in the future have a bountiful supply of fresh air. In the past it has not been unusual for twenty per cent. of the members of the assembly to suffer from the foul air

which filled their chamber, and particularly the committee-rooms. At times the stench from sewer-gas was so oppressive that members were forced to leave the place. A system of conduits and fans has now been introduced, and the commissioner having the matter in charge guarantees that in future the ventilation will be perfect.

— At a meeting of the State Commission on Lunacy, held at Albany, September 3d, the State was divided into insane-asylum districts, in accordance with the provisions of the State Care of Insane act, passed at the last session of the legislature. There was a full board present, together with the superintendents or other representatives of the Utica State Hospital, the Buffalo State Hospital, the Binghamton State Hospital, the Hudson River State Hospital, the Willard State Hospital, the Monroe County Asylum, and the St. Lawrence State Hospital. The districts proposed to take effect October 1st are as follows, each comprising from six to ten counties: Utica District, Hudson River District, Middletown District, Willard District, Binghamton District, St. Lawrence District and Buffalo District. Until such time as the State assumes full charge of the insane, the various counties will be required to pay for their own insane at the rate of \$4.25 per week for all patients kept in hospital for three years or less, and \$2.50 per week for those maintained for any period exceeding three years.

— By a mistake on the part of a student in the Male Training School for Nurses, at that institution, a typhoid-fever patient at Bellevue Hospital was recently given half a drachm of carbolic acid, which caused his death. The medicine ordered was one drachm of carbolic acid to two ounces of glycerine, of which the dose was one teaspoonful. The nurse, who had only been in the school since the 1st of June, was arrested and held in \$2,500 bail.

Miscellany.

CHOLERA IN SPAIN.

THE Department of State transmits the following despatch from the United States chargé d'affairs at Madrid, dated August 15, 1890:

“A general review of the cholera situation in Spain for the past week shows a heavy increase in new invasions and deaths over the week previous.

“It is gradually increasing both in intensity and ground covered. At present five provinces claim its presence, Valencia, Badajoz, Alicante, Toledo and Castile. Necessarily, it has followed the lines of travel, and although the Government has made noble efforts in many ways to stamp out the disease, yet refugees carry the contagion to a more or less extent, and its presence in Toledo, Llerina, and Madrid is accounted for by this cause.

“A most remarkable state of affairs existed in Arges, a small village of some 200 people near Toledo. On the first appearance of the cholera, those pecuniarily able immediately left, some fifty in all; of the bal-

ance 120 were taken with the disease, of which over 61 died, among the latter, the parish priest, the carpenter of the village, and the keeper of the cemetery, who dug the graves; the alcalde and clerk were also down with it, and stories were told of mothers unable to obtain coffins for their husbands and infants, and going through the one street of the village with the bodies on a cart to the cemetery, and obliged to dig the graves themselves. What few stores the town contained were closed. The inhabitants were actually starving to death until the Government stepped in and sent provisions, medicines, carpenters, and general assistance. The misery which existed in that little village is without parallel.

“The city of Valencia has a sanitary brigade which makes immediate visits to suspicious cases, and in one case they treated a woman who died a few hours afterwards; they ordered her immediate burial, but the woman's daughter claimed that her mother was not dead; the doctors insisted that she was, and insisted on the funeral, which took place under Government's orders. The parish priest sided with the daughter, and the result was, the next time the brigade appeared a mob congregated, and the physician and assistants were stoned and abominably assaulted. They naturally declined to do any further work in their line, and that portion of the city is unprotected, and there occurred to-day eight or nine new cases. In Madrid several deaths have occurred, which, on investigation, showed the unfortunates came from infected towns. A reappearance of the disease is also reported from Denia.

“A summary of the official reports from August 1st to August 14th, gives 1,042 new cases and 505 deaths.”

ATROPIA IN THE TREATMENT OF ENURESIS.

DR. R. BRUCE JAMES, of New York, gives us in the *Archives of Pediatrics* for September, 1890, the results of his experience in an orphan asylum with atropia given for enuresis according to the method so highly recommended by Dr. Baruch and others. He found it often effective in full doses while used, but leaving the patients no better off after its administration was stopped than before.

“In this institution all the smaller children are put to bed at 6 p. m., and made to rise three hours later, at 9 p. m., and urged to urinate.

“The following plan of treatment was instituted: a solution of atropia sulphate was made, of which one teaspoonful represented one-hundredth of grain of the drug. Of this solution, for the first night, each child had one teaspoonful at 6 and another at 9 p. m., and this to be increased by one teaspoonful every night till a controlling dose was reached for each case. None of them were benefited by less than four-hundredths of a grain at night, — that is, two-hundredths of a grain at 6 and two-hundredths of a grain at 9 p. m., — while others required as much as eight-hundredths of a grain (divided as above); one case was given as much as one-tenth of a grain at night without showing symptoms of poisoning.

“It may be stated that nothing short of the quantity that produced full physiological effects was of any avail. This point was insisted upon by Dr. Baruch in the paper referred to. After the controlling dose was

ascertained for each case, it was repeated every night for about one month, when the drug was withheld altogether. It was found that many of the cases were relieved, while others were not benefited. The latter were immediately put on their controlling dose, and an attempt made to diminish it, "to taper off," so to speak, but without much success in this, though in no case was it found necessary to increase the original controlling dose, except in one case where it lost its effects.

"Now, of the cases 'completely relieved,' the enuresis returned in all, with one exception, in periods ranging from one to six weeks. The case that was cured was a healthy boy but slightly affected. These cases were put on their controlling doses as they relapsed, and an attempt was made to 'taper off' with them also, and in some cases a considerable reduction of dose was effected.

"These cases were kept under close observation for eight months, during which time many of them would go without the drug, or on reduced doses, from one to four weeks without wetting themselves. But sooner or later the relapse would occur, and at the end of the eight months they were but little better than when treatment was started."

HEREDITARY SYPHILIS.

A CONSIDERATION of curious problems relating to hereditary syphilis, by Neumann, has lately been published in the *Jahrbuch für Kinderheilkunde*, xxx 1, 2, which is thus condensed in the *Archives of Pediatrics*, September, 1890:

"The following questions are proposed:

"(1) What will be the result if the father and mother are not syphilitic at the time of conception, the mother first becoming infected after conception?

"(2) What will be the effect of post-conceptional syphilis on the part of the mother, if the father was already syphilitic at the time of marriage?

"(3) What will be the effect of post-conceptional syphilis upon the offspring, the health of the father at the time of marriage being unknown, and the mother being well at the time of conception?

"(4) How will the offspring be infected if infection and conception occur at the same time?

"(5) How will it be with the offspring if the father or mother or both were syphilitic prior to conception?

"Another question might be added, namely, Does the post-conceptional syphilis of the mother pass to her fetus, which was healthy at the time of conception, and if so, in what month of pregnancy does the infection occur? In respect to this question Neumann disagrees with the answer of Kassowitz, that the fetus, with a healthy father, could not sustain intra-uterine infection by the post-conceptional syphilis of the mother. Kassowitz himself subsequently modified his opinion in stating that the passage of the syphilitic contagium from mother to child, and conversely, might occasionally take place, and that then the organism of the fetus, remaining free from syphilis in spite of the placental circulation, would have acquired a high degree of immunity from subsequent syphilitic infection. As to the period of time in pregnancy in which the virus passes from mother to fetus no one has yet offered any satisfactory answer. The statements of Neumann are based upon two hundred and sixty-one cases which were observed in his clinic.

Of pure post-conceptional syphilis there were eleven cases; of the eleven children, four remained free from syphilis. The infection of the four mothers in these cases took place in the ninth, seventh, sixth and fifth month (lunar) of gestation. Two of these mothers had treatment for syphilis during pregnancy; the others did not. The infection of the other mothers, who were delivered of macerated, dead, or syphilitic infants, occurred between the second and eighth lunar months, and of these, two received treatment during pregnancy.

"In a second series of fifteen cases, in which the fathers were syphilitic at the time of marriage, the mothers were not infected until pregnancy was established. Of the fifteen children of these mothers, eight were born dead, the mothers having been infected in the second and sixth months; five were born healthy, the mothers being infected between the fourth and ninth months; two were syphilitic, whose mothers were infected in the fourth and fifth months. A third series includes sixteen cases of post-conceptional syphilis, in which the conditions of health of the fathers were unknown. Of the sixteen children, three were born dead, their mothers being infected in the second and third months; five healthy, infection taking place in the sixth to eighth month; five premature, infection in the first to fifth month; one syphilitic, whose mother was infected in the fifth month; in two others the time of infection could not be ascertained.

A fourth series included thirty-nine cases in which conception and infection were simultaneous; fourteen of the infants were mature and healthy; twenty-one premature and macerated; four were born alive, but were syphilitic.

"In a fifth series of twenty-nine cases, in which the mothers were diseased prior to conception, eight children were mature and healthy at birth; three mature and syphilitic; five were premature; there were thirteen abortions, the fetuses in seven of them being macerated. The following conclusions were drawn from the entire one hundred and twelve cases:

"(1.) In pure post-conceptional syphilis, infection of the mother in the first months of pregnancy favors disease in the child, but in almost half of all the cases the children are, in fact, healthy. It is therefore certain that the barrier between mother and fetus can be traversed by the syphilitic virus, and that in the last one hundred and twenty days of pregnancy infection of the mother at least endangers the fetus.

"(2.) Even when the syphilitic disease of the father is evident at the time of marriage, and the mother is not infected until subsequently, healthy children may be brought into the world.

"(3.) In the case of post-conceptional syphilis, in which the condition of the father is not known, there is great probability that there will be many instances of purely post-conceptional syphilis in the children.

"(4.) In the cases in which conception and infection took place simultaneously, fifteen out of forty-seven children were born healthy, in spite of the assumption that under such circumstances they ought to be syphilitic.

"(5.) If infection occurs before conception, it is necessary to know how long an interval has elapsed. A long interval of time and mercurial treatment of the parents are favorable conditions for the fetus.

"(6.) The statement is incorrect that tertiary syphilis makes women sterile."

EXTIRPATION OF THE THYROID GLAND.

The London *Medical Recorder*, August 20th, condenses from the *Occidental Medical Times*, July, 1890, a case of the above operation, interesting in itself, and from its effects on the patient.

J. S. W., aged forty-two years, a clerk, entered the Southern Pacific Company's Hospital, September 17, 1888. About eight months ago he had noticed a small tumor situated in the neck, close to the right border of the trachea. This gradually increased in size, and two months ago began to cause inconvenience through pressure upon adjacent organs. On admission, he complained of considerable difficulty in swallowing, and at times the mass obstructed the respiratory act. The author accordingly at once determined upon removal of the tumor. Ether having been administered, assisted by Drs. Cluness and Gardner, he made an incision two and a half inches long over the right border of the trachea. Through this the tumor was readily exposed. At the same time it was discovered that both lobes of the thyroid were considerably hypertrophied. Although the tumor was attached to the right lobe of the gland by a rather large pedicle, it was apparent that the connection was very intimate. In view of the hypertrophy of the gland, he concluded to remove it with the tumor. This was done by extracapsular enucleation. The right and left superior and left inferior thyroid arteries were tied twice in

their continuity, and then divided. The same course was pursued in dealing with other important vessels, both venous and arterial. In this he was greatly aided by the use of a pair of curved transfixion forceps. The blunt points of this instrument having been passed around a mass of vascular tissue, were opened, and made to grasp a double ligature. By this means the entire gland was separated with a minimum of hemorrhage. The resulting cavity was provided with drainage-tubes, carefully irrigated, closed with wire sutures, and dressed antiseptically. The ligatures, which were of strong hemp-twine, came away in from five to ten days, and the wound healed without interruption. For the first few days some difficulty was experienced in breathing and swallowing, but these symptoms disappeared without untoward consequences. At the end of four months from the operation the patient seemed to present symptoms of incipient myxedema. His face was puffy, his limbs edematous to a marked extent, and his skin waxy and pale. Mental depression and inability to concentrate his mind upon his ordinary work was also noted. He complained of great weariness and lassitude, with neuralgic and muscular pains. These symptoms persisted for several months, and then under tonic treatment, gradually subsided. The patient has been seen very often during the past year, and continues to be able to pursue his calling as an accountant, though his health is naturally poor."

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 30, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	716	352	24.96	12.74	3.64	16.90	1.43
Chicago	1,100,000	369	379	29.43	5.33	5.13	7.58	3.51
Philadelphia	1,064,277	390	159	19.50	14.50	3.12	9.36	3.64
Brooklyn	852,467	397	219	23.00	9.25	4.50	18.75	1.00
St. Louis	550,000	161	74	14.88	10.54	2.45	9.92	2.48
Baltimore	500,343	157	68	24.46	15.36	1.02	13.44	5.12
Boston	418,110	205	105	30.87	10.78	5.30	21.35	2.94
Cincinnati	320,000	123	70	21.06	8.91	11.34	6.48	3.24
New Orleans	220,000	—	—	—	—	—	—	—
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	125	46	20.00	21.60	4.80	6.40	5.60
Nashville	68,513	24	15	24.96	16.64	—	20.80	—
Charleston	60,145	58	30	27.52	12.04	—	13.76	5.16
Portland	42,000	13	5	28.76	15.38	7.69	23.07	—
Worcester	81,622	32	20	31.30	9.39	—	31.30	—
Lowell	73,370	42	21	45.22	11.10	—	38.08	2.38
Cambridge	67,026	31	19	45.22	12.25	—	38.16	3.23
Fall River	64,082	37	24	12.60	5.40	10.80	2.70	—
Lynn	55,200	17	10	29.44	23.32	—	17.66	—
Springfield	41,200	11	7	35.70	28.56	—	53.70	—
Lawrence	14,058	14	10	57.14	—	7.14	50.00	—
New Bedford	32,218	20	11	50.00	10.00	—	45.00	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	32,516	—	—	—	—	—	—	—
Brockton	30,811	6	4	66.66	33.33	—	50.00	—
Salem	29,242	18	11	27.77	5.55	—	22.22	5.55
Chelsea	28,781	22	8	9.10	18.20	—	4.55	4.55
Haverhill	27,124	12	7	41.66	—	—	41.66	—
Taunton	25,544	—	—	—	—	—	—	—
Gloucester	24,304	8	4	—	12.50	—	—	—
Newton	22,011	12	4	25.00	—	8.33	8.33	—
Milford	20,616	4	2	25.00	—	25.00	—	—
Waltham	17,986	5	1	—	25.00	—	—	—
Fitchburg	15,594	4	2	25.00	—	—	25.00	—
Arlington	15,951	—	—	—	—	—	—	—
Pittsfield	15,762	12	5	55.33	—	—	55.33	—
Quincy	14,114	6	7	50.00	—	—	50.00	—
Newburyport	13,915	5	1	—	—	—	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 3,059; under five years of age 1,700: principal infectious diseases (small-pox, measles, diphtheria and croup, diphtheria and croup-conj., erysipelas and scarlet fever), 750; consumption 381, acute lung disease 184, diarrhoeal diseases 418; diphtheria and croup 122, typhoid fever 79, whooping-cough 41, measles 13, malarial fever 13, cerebro-spinal meningitis 9, scarlet fever 7, erysipelas 6.

From whooping-cough, Brooklyn 9, New York 8, Philadelphia 7, Chicago and Baltimore 5 each, Charleston 2, Boston, 1.

The meteorological record for the week ending Aug. 30, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*			Rainfall.		
		Daily Mean.		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
		Saturday,	Daily Mean.	Daily Mean.	Daily Mean.	Daily Mean.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.
Sunday...	24	30.03	60.0	68.0	53.0	88	13	80.0	N.W.	W.	8	11	O.	F.				0.19	
Monday...	25	30.03	61.0	72.0	59.0	80	10	76.0	W.	S.W.	12	8	P.	C.					
Tuesday...	26	29.97	68.0	77.0	59.0	77	88	83.0	S.W.	S.	3	3	C.	P.					
Wednesday...	27	29.59	76.0	77.0	63.0	98	62	82.0	S.	W.	12	R.	C.	T.				0.68	
Thursday...	28	29.84	70.0	76.0	63.0	60	68	64.0	W.	N.W.	16	8	C.	C.					
Friday...	29	29.72	67.0	72.0	59.0	65	82	74.0	N.W.	S.E.	9	4	F.	C.					
Saturday, 30	29.72	67.0	73.0	60.0	85	83	74.0	S.	W.	10	O.	C.						0.08	
Mean for Week.																			

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 30, 1890, TO SEPTEMBER 5, 1890.

APPOINTMENT.

JEDDEHIAH H. BAXTER, Colonel, chief medical purveyor, to be general, with the rank of brigadier general, August 16, 1890, vice Moore, retired from active service. Headquarters of the Army, A. G. O., Washington, September 1, 1890.

Leave of absence for one month, to take effect September 15, 1890, is granted First Lieutenant THEODORE F. DEWITT, assistant surgeon, U. S. Army. Headquarters Department of Texas, S. O. 76, San Antonio, Texas, September 1, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 6, 1890.

J. C. WISE, surgeon. Detached from Torpedo Station and to the U. S. S. "Alliance."

PAUL FITZSIMONS, surgeon. Ordered to the Torpedo Station, Newport, R. I.

GEORGE A. BRIGHT, surgeon. Detached from the U. S. S. "Constellation" to Naval Academy.

F. W. ALCOTT, assistant surgeon. Promoted to be passed assistant surgeon, U. S. Navy.

A. R. WENTWORTH, passed assistant surgeon. Requests to withdraw resignation, granted.

M. H. CRAWFORD, passed assistant surgeon. Detached from the U. S. S. "Monongahela," and granted two months' leave of absence.

JAMES F. KEENEY, assistant surgeon. Detached from the U. S. S. "Richmond," and granted two months' leave of absence.

CHAS. H. T. LOWNDES, assistant surgeon. Detached from Naval Academy and ordered to the U. S. S. "Richmond."

RESIGNATION.

DR. SAMUEL S. DIXON, professor of hygiene and dean of the Medical Department of the University of Pennsylvania, has resigned, in order to devote all his time to bacteriological research.

DEATH.

In Danversport, Mass., September 4, 1890, Daniel Homer Batchelder, M.D., M.M.S.S., aged seventy-nine years.

Nashville, Cambridge, New Bedford and Brockton 1 each. From measles New York 8, Brooklyn 2, Chicago, Philadelphia, Franklin Park, Springfield, Worcester, New Haven, New Bedford and Charleston 3 each. Philadelphia and Baltimore 1 each. From cerebro-spinal meningitis, Chicago and Lynn 2 each. Philadelphia, Brooklyn, Boston, Washington and Lowell, 1 each. From scarlet fever, Philadelphia 3, Washington 2, New York and Chicago 1 each. From erysipelas Chicago 2, New York, Baltimore and Lowell 1 each.

OBITUARY. WINTHROP F. STEVENS, M.D., M.M.S.S.

Dr. Winthrop F. Stevens, a prominent physician of Stoneham, Mass., died September 5th, at the age of forty-two. He was the son of the late Dr. William F. Stevens, and had carried on his father's practice with great success, serving also as a medical examiner for his native town physician. He was a native of Stoneham and a graduate of Dartmouth, class of 1869, and of the Harvard Medical School, class of 1872.

OBITUARY. ROBERT A. MANWARING, M.D.

Dr. Robert A. Manwaring, one of the oldest and most respected physicians in eastern Connecticut, died in New London on Monday, aged seventy-nine. He began the practice of medicine in Ledyard, after several years removing to Norwich, and from that city to his native place, New London, where he has been in full practice for nearly forty years. His father was Christopher Manwaring, a descendant of the noted Manwaring family of England; his mother, Mary Wolcott, granddaughter of the famous Oliver Wolcott. The New London Telegraph says of Dr. Manwaring: "For more than half a century he was the leading physician of this section, his younger colleagues willingly seeking his advice and available by wisdom, experience, observation and admirable tact." He was a man of energy, but unostentatiously generous, and seemed to rejoice in giving his services where the personal satisfaction of doing a good deed was his sole reward. Notwithstanding his laborious life, he was uncommonly vigorous in mind and body, and had looked forward to many years of happy contentment in his ancestral home upon Manwaring hill, to which he had lately returned. He possessed a profound and much-needed intellect. His mind was a veritable storehouse of knowledge. He was a capital companion, entertaining raconteur, humorous and philosophical in a rare combination, and keenly appreciative of a good thing. He was a classmate of Oliver Wendell Holmes, with whom he kept up friendship, and from whom he received a touching beautiful letter upon the autocrat's eightieth birthday last year.

BOOKS AND PAMPHLETS RECEIVED.

The Relation of Eye-strain to General Medicine. By George M. Gould, M.D., Ophthalmic Surgeon to the Philadelphia Hospital. Reprint. 1890.

Essentials of Anatomy and Manual of Practical Dissection, together with the Anatomy of the Viscera. Prepared expressly for students of medicine. By Charles B. Nichols, M.D., Professor of Surgery and Clinical Medicine in the University of Michigan, etc. Third edition, revised and enlarged, based upon the last edition of Gray's Anatomy. Thirty handsome, full-page lithographic plates, in colors, and 180 fine wood-cuts. Philadelphia: W. B. Saunders. 1890.

Original Articles.

THE TREATMENT OF DIABETES MELLITUS.¹

BY DR. L. SEEGEN, VIENNA, AUSTRIA.

AFTER a few introductory words the reader remarked that more than thirty years ago he had learned from the evidence of fourteen diabetes cases (reported at that time), that diabetes manifests itself in two forms. These can be differentiated, from the fact that in the first form sugar is excreted only if carbohydrate is taken in the food, and in the second form the excretion of sugar is entirely independent of the food taken. As a result of Pavly's investigations, the belief had prevailed up to this time, that the formation of sugar in the body was a fatal symptom.

It was thought that, in diabetes mellitus, there was developed in the living body a process of fermentation which normally appeared only after death, and which converted the liver-starch into sugar. Why this ferment in one type of the disease only acted upon the starch formed from carbohydrate, while in the other type it attacked the starch formed from albuminous compounds, the pathologist did not understand.

As a result of Seegen's work, it is now known that sugar-production is, in accordance with Bernard's theory, a normal process, and, is indeed one of the most important of the bodily functions. Seegen combined the results of his investigations into the following statements.

(a) The liver constantly produces sugar. This is proved by the fact that the liver of every living being contains 0.4–0.5 sugar, and by the fact that the blood leaving the liver (as demonstrated in more than sixty investigations) contains, without exception, more sugar than the blood when it enters the liver.

(b) Sugar is not formed from liver-starch, as Bernard believes.

Observation teaches us that the sugar-increase in the liver is most marked in the first hours after death; for the sugar increases from 0.4% to 2–3%, while the liver-starch remains unaltered in its condition. If the liver-cells retain their functions longer, with the aid of arterial blood, they are able to produce other carbohydrates as well as sugar.

(c) The materials from which sugar is formed are the albuminous and fatty compounds. In experiments where a diet composed exclusively of meat or exclusively of fat was given, as well as in experiments where starvation was carried to the point of inanition, the blood leaving the liver was always richer in sugar than the blood entering it.

(d) The amount of sugar carried into the circulation in twenty-four hours from the liver may be calculated (1) from the difference between the quantity of sugar in the afferent and that in the efferent blood (a difference amounting on the average to 0.1%), and (2) from the way in which the amounts of blood flowing through the liver in a given space of time, approximate each other.

This quantity of sugar amounts, in the case of a dog of 10 kilos., to upwards of 100 gr. in twenty-four hours, and in man (calculating the relation his blood-quantity bears to that of the dog) it amounts to 500–600 gr.

(e) The sugar formed in the liver and carried into

the blood from there, is constantly being destroyed and consumed in the tissues of the body.

If the liver be cut off from the circulation for only thirty minutes, the quantity of sugar in the blood sinks to one-third of its original amount; and Minkowski found that the sugar in the blood of geese *entirely* disappeared after the liver had been cut off from the circulation for a few hours.

(f) Sugar produced in the liver in so great an amount requires, for its production, a considerable amount of carbohydrates. Hence, it naturally results that almost the entire amount of food taken is consumed in the production of sugar.

This production is one of the most important of the bodily functions, as the sugar produced is a source of supply for heat-production and for bodily activity.

(g) Liver-starch is formed, to a great extent, from carbohydrates. Under a fat diet, the liver contains almost no starch; with a meat diet it contains 2–3%; while with a diet of sugar and dextrine it contains up to 12%.

What becomes of the liver-starch has not yet been determined experimentally. Probably it is changed to fat, and serves as a reserve material for sugar-production.

In the light of these physiological facts, experimentally proven, both forms of diabetes become far more intelligible to us.

In the one form, the sugar which is excreted is produced only from the carbohydrate ingested; we may then conclude that the liver has lost the power of making starch (glycogen) out of carbohydrate, and can no longer act upon the starch already formed. In this form of the disease the liver-cells are not capable of fully carrying out their functions.

In the other form of the disease sugar is excreted when not an atom of carbohydrate has been consumed in the food. This sugar is produced in the body. It is oxidized in the body and consumed in accomplishing the work of the body. The body of a diabetic patient has lost the ability of disposing of the sugar in the blood. That is to say, the cells of the whole body have become more or less incapable of fully converting the sugar brought to them.

It can now be understood that these two forms of diabetes have a very different significance; for in the first form, a patient may live for a long time, provided carbohydrates be denied him; but in the other form, the patient dies in a very short time.

The fact that in one case the *liver* cells, and in the other case the cells of the *whole body* are functionally incapable, we cannot at present explain. In other words, we are as yet entirely ignorant of the nature of diabetes. We know with certainty that diseases or abnormalities of the nervous system are often accompanied by diabetes, and we also know that all those conditions which have to do especially with the nervous system, for example, extreme mental depression, will readily produce the disease.

The heredity of diabetes is, at present, undisputed; and we also see frequently that diabetes alternates with psychosis in a family.

The reader alluded to the fact that he had determined experimentally, that morphia, chloroform and curare, drugs which affect the nervous system especially, diminish to a marked degree the conversion of blood-sugar.

Undoubtedly other causes are brought to bear in

¹ An abstract of a paper read in the Medical Section of the International Congress at Berlin.

the production of a case of diabetes; and the remarkable discovery of Mering and Minkowski, that an animal whose pancreas has been excised remains permanently diabetic, deserves mention in this connection.

The reader announced that he had studied upwards of one thousand cases of diabetes during the last year, and that he still believed, as he did thirty years ago, that diabetes manifests itself only in the two forms previously mentioned. The cases of the first form, as well as those of the second, vary in severity. In diabetes of the milder type, the degree of tolerance for starch varies greatly. While one case responds to the introduction of small amounts of carbohydrates, by an excretion of sugar, another case will take a far greater amount of carbohydrates with his food without excreting any sugar in the urine.

The tolerance for sugar-excretion, that is to say for abnormal sugar-production, also varies. Many cases begin to lose ground when the urine contains only a moderate amount of sugar, while others have two to three per cent. of sugar in the urine for many years, and continue to feel very well, provided they eat freely of meat and fat.

In general it proves to be true that the tolerance for sugar-excretion gradually increases, and patients who were very ill at the beginning of the disease feel very well under the same conditions later on, in spite of the fact that their urines contain considerable quantities of sugar. Those cases which cannot assimilate even the smallest quantities of carbohydrates, readily give one the impression, both from their general appearance and from all their symptoms, that they are cases of the severe type. Only when these cases are kept for a long time on an exclusively meat-diet, is one convinced that their disease is of the milder form.

Occasionally, diabetes of this milder form may become transformed into the severer kind. Seegen has noticed this especially in *youthful* cases as well as in those who through negligence or poverty, subsist upon a very insufficient diet.

Not infrequently, cases whose urine contains small amounts of sugar, come under observation. They are either very old people (generally between sixty and seventy years) or they are cases whose nervous systems have become greatly exhausted (especially well-marked neurasthenics).

Every sugar-excretion which can be demonstrated by the means at our command (and by Seegen's carbon test, 0.01% can be determined with certainty) is abnormal. A benign glycosuria does not exist. The importance of a small excretion of sugar varies greatly, however. In old people it is of very little importance, while in young and neurasthenic cases it always indicates a more serious nervous affection.

The course of diabetes varies. Cases of the milder form may keep very well if they can provide for themselves a plentiful and proper diet, and Seegen has seen cases which had remained diabetic for nearly twenty years, and which still felt comparatively well. Cases of the severer type die quickly, especially if they are youthful individuals. The fatal result occurs after from two to three years.

Recovery from diabetes, in the sense that the patient could eat starchy food recklessly, as is normally the case, without any evil effects, the reader had never seen.

In the treatment of diabetes the diet plays the most

important part. We cannot attack the real cause of the disease because we do not know it. Our task, then, is to prevent, so far as is possible, sugar-production. This can be done only in the mild form of diabetes. The diet should be regulated as follows: There should be absolute avoidance of carbohydrates, and accordingly a diet composed exclusively of fat and meat. Contani and other physicians have wished to embody this principle in its entirety in their practice, and Contani believes that he has seen a cure following a long-continued diet composed exclusively of meat. The reader has never seen so fortunate a result. Absolute meat diet, if it be long continued, has undoubtedly the advantage that it permits a certain tolerance for starch; but this tolerance is a very limited one, and a diabetic who, after a long-continued life of meat diet, allowed himself to live like a healthy person, would pay heavily for it.

Aside from its great difficulty of accomplishment, a diet composed entirely of meat has this great drawback: cases so treated quickly acquire a catarrhal gastritis and enteritis. Besides this, the less-determined patients generally break through their diet regulations and eat injurious food without stint, because the treatment is so very unpleasant and of such long duration.

The theory that diabetes can be cured has another great disadvantage connected with it. Patients from whose urine the sugar has all disappeared except a trace, consider themselves cured, and think their diet may be varied. In this way relapses occur.

The idea which Seegen follows out in treating his diabetes cases is as follows: there should be ordered for the patient such a diet as can be continued throughout a life-time, with the aid of a strong determination. A diet of meat and fat should prevail. Seegen warns you that the patient must not be allowed to eat meat and eggs in *too great quantities* for the purpose of building himself up. A diabetic patient does not need more meat than any healthy person who lives chiefly on a meat diet. But with this diet the patient should be ordered green vegetables in any quantity desired, and sour (not sweet) fruit in moderate amount. Bread is indispensable for a time, and Seegen orders 40-60 grs. per diem, but speaks most decidedly against fresh bread, because this always contains starch, and if allowed, the control of the diet (over the disease) will be lost. An exclusive meat diet is strenuously to be recommended:

(1.) If it is necessary to decide whether the disease is of the first or second form.

(2.) When wounds do not heal and when gangrene sets in or a surgical operation is necessary.

Sour (not sweet) red or white wine is allowed in any quantity, and yet it is an error to allow a diabetic patient to drink large quantities of wine with the idea of strengthening him. Beer may be allowed in moderate quantity, (that is, about half a litre).

In diabetes of the severe form abstinence from carbohydrates is important only because, as a result of such abstinence, the excretion of sugar is markedly lessened. To restrict cases of this kind to a meat diet is not indicated, for it makes little difference whether 20-30 grs. (sugar), more or less, are excreted; and the advantage gained is not equivalent to the privation endured.

Next to the diet, the use of alkaline mineral waters in diabetes mellitus is of unquestioned advantage.

(Carlsbad, Vichy and Neurnahr.) Without doubt the use of other well-known waters increases the tolerance for starch; that is to say, the patient can consume a greater quantity of carbohydrate during the use of these waters and for some time thereafter than he could before, without causing the appearance of sugar in the urine. Carlsbad exerts only a passing, symptomatic influence on cases of the severe form of diabetes. Seegen warns us not to send cases of this kind to distant watering-places, for experience teaches that railroad journeys exert a bad influence in cases of diabetes.

The reader has seldom had an opportunity of seeing any lasting benefit derived from other remedies. In children and young people he recommends the steady use of iron waters containing some arsenic. (Roncegno, Levico and Guber.) A trip to the South is of very great benefit.

MUSHROOMS AND MUSHROOM-POISONING.¹

BY EDWARD J. FORSTER, M.D., OF CHARLESTOWN.

If any apology were needed for the paper which I offer this morning, I think it will be found in the following extract from a newspaper of last summer:

TOADSTOOLS MISTAKEN FOR MUSHROOMS. — N. Y., August 13th. A sad case of fatal poisoning by eating toadstools mistaken for mushrooms, has occurred at N. Y. C., R. County, the unfortunate victim being Miss M. A. W., a highly respected lady twenty-five years of age. On Thursday last the W. family ate dinner of what they supposed were mushrooms, gathered from the fields near by. Shortly afterward four members of the family were taken ill — two of the daughters, M. and A., being seriously affected. Yesterday M. died at noon, and her sister is still very sick. An investigation revealed the fact that the supposed mushrooms were poisonous toadstools, closely resembling the former in appearance.

This is a fair sample of what I have found each year since I became interested in the study of mushrooms.

"Do you know a mushroom?" "Certainly, I have eaten them often." This answer generally refers to the canned ones, so often served with *filet de bœuf*, and which, by the way, resemble the fresh mushroom in flavor as much as hashed corned beef does a good porter-house steak. "Oh, yes! a mushroom is a kind of toadstool." Such are the replies generally given to my question.

"But do you know a mushroom when you are walking in the fields, and are you sure enough of your knowledge that you dare to take one home, cook, and eat it without fear of being poisoned?" I think not.

It is the purpose of this paper to endeavor to impart that knowledge, and warn you against those whose character is doubtful, and those which are known to be fatally poisonous.

I am quite sure that there are not many of the members who can with certainty distinguish the edible from the poisonous varieties. Some of you know the common meadow mushroom, but here your knowledge generally ends; you cannot distinguish with certainty the poisonous Amanita, the most deadly of all the fungi, one of the most common in our northern woods, as well as one of the handsomest.

If called to a case of mushroom poisoning, I am very much afraid you would treat it upon general principles, forgetting, if you ever knew, that general principles are here of little avail, and that reliance should be placed

upon an antidote which is as effectual here as when properly given in other cases of poisoning.

To help you to a knowledge of the common varieties which are edible beyond peradventure, to recognize the deadly Amanita, so that you can give it a wide berth, to treat properly a case of poisoning if you should be so unfortunate as to be called to one, will be my endeavor this morning.

From the dictionaries we derive the following definitions:

Worcester says a mushroom is a "fungous plant of the genus Agaricus. Mushrooms inhabit meadows, rocks, and masses of decaying vegetable matter, in many parts of the temperate regions of the earth. Among them a large proportion are poisonous, a few are wholesome, but, by far the greater number are unknown in regard to their action upon the human constitution. The name is, in popular use, often restricted to the edible species." And he says that "a toadstool is a mushroom."

Webster says of mushroom, "(Fr. mousseron, the white mushroom, from mouse, moss, or the same root bearing the sense of softness or nap). The common name of numerous plants of the natural order of fungi. Some of them are esculent, others poisonous. Mushrooms grow on dunghills, and in moist, rich ground, and often spring up in a short time. The term mushroom is sometimes applied to distinguish the edible fungi from the toadstools which are poisonous." Toadstool he defines, "(toad and stool). A mushroom, a plant which commonly grows in moist and rich grounds."

Such are the definitions of the dictionaries, but I think each person makes the distinction between mushrooms and toadstools, or defines the words according to his knowledge of the subject.

Thus, to the cryptogamic botanists, "mushrooms" include all fungi which have a cap and stem, and resemble the common edible mushroom of the market in their general appearance, and to such "toadstools" would be a synonymous word if they used it.

To the mycophagist who is not a botanist, all fungi that he knows to be edible are mushrooms; all others having the cap and stem, of the qualities of which he is ignorant or which he knows to be poisonous, are very likely to be called toadstools, — the commonly accepted idea being, that known edible varieties are mushrooms, all others toadstools. So it is that education in mycology increases the number of mushrooms and decreases the number of toadstools. To paraphrase an old saw,

"One man's mushroom is another man's toadstool."

As this name "toadstool" is founded upon a popular error, no one ever having seen a toad using a fungus for a stool, is it better to forego the use of the word, particularly as association of ideas plays so great a part in our likes and dislikes; for as toads are to many persons noisome and uncanny creatures, the disuse of the word will perhaps allow many, who otherwise would not, to eat of some of the most delicious of nature's products, upon which they formerly looked with suspicion if not fear, — "products of which" Mr. Julius A. Palmer truly says, "the harvest is spontaneous, it requires no seed-time and asks for no peasant's toil, . . . (a) feast, abundantly provided by nature for the poorest as well as the most epicurean."

I shall only use the term mushroom, prefixing it with edible or poisonous, as the case may be.

¹ Read before the Massachusetts Medical Society, June 11, 1890, and recommended for publication by the Society.

That some mushrooms are poisonous and even fatally so, no one can deny, but the danger from eating them when ordinary care is exercised is greatly overestimated.

Stevenson, who has written one of the best and latest works on British fungi, enumerates as growing in Great Britain, 1218 species of mushrooms, that is, fleshy fungi having a stem and cap.

We probably have a larger number in this country, where the study of mycology is yet in its infancy, and only portions of our territory have been thoroughly investigated.

Of this great number it is safe to say that the majority are harmless; very many are too small or too quickly perishable to be of use as food; many are known to be edible and only a few poisonous, although quite a number will cause distressing and alarming symptoms.

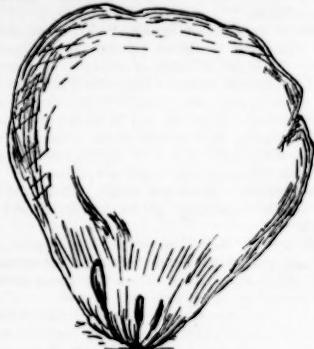


FIG. 1.

Mr. Palmer, of Boston, to whom we owe the first, and, as yet, the only series of colored plates of edible and poisonous varieties issued in this country, and who has practically and personally tested the edible qualities of mushrooms as much as any one about here, acts upon the belief that the fatally poisonous varieties will all be found belonging to a single and quite easily recognized species, namely the *Amanitas*. Many others have the same opinion, but have hardly the courage of their convictions, and back them by their practice.

Besides the mushroom proper there are many others of the fungi which are edible and easily recognized; namely, the puff balls, the clavarias, and the fistulina hepatica. There are still others, including the Morels, of which I shall not have time to speak.

The Puff-Balls (Fig. 1) are very easily recognized, being round, and when ripe emitting their spores in the form of dust. These are good when fresh, before the inside has changed from the purest white; they can be sliced, cooked in batter, and are then delicious. These are called the omelette mushroom, on account of the resemblance in taste to that dish. When eaten in proper condition, none are poisonous, although with some a slight cathartic action is produced.

The Clavarias (Fig. 2) are quite common in woods, and are readily known; they resemble a piece of branching coral in miniature. Stewed or cooked with butter, they make a good addition to any joint.

The *Fistulina Hepatica* (Fig. 3), also known as the beefsteak mushroom, can hardly be mistaken. It is red in color; in shape it looks like a tongue, and grows on oak and chestnut trees. It is not common. Professor Farlow tells me that he found several last year, and doubted if I should know the difference from a beefsteak if I had eaten them after they had been cooked. I never found them until last season, and then they were too small for me to test their edible qualities.



FIG. 2.

A mushroom we will understand to be a fungus that has a stem and cap, that is, umbrella-like in shape, and is not woody in texture.

Before proceeding further in this necessarily somewhat cursory glance at our subject, it is best that we learn the meaning of a few botanical terms.

The cap or pileus is the expanded top, and rests upon the stem. The under side of this cap bears either gills, tubes or teeth. The gills are thin plates radiating from the centre, where the stem is joined to the cap. The tubes or pores are small holes, and give the under side a spongy appearance. The teeth are spines or bristles of different lengths. All these, gills, tubes and teeth, are covered by a thin membrane, which again is covered with the spores, which are the reproductive bodies, and appear like fine dust when deposited upon anything lying under the cap. It has been estimated that the number of spores in a single plant may exceed 10,000,000. Before the cap of the mushroom is fully expanded, the under side is covered by a membrane known as the veil; a portion of this is sometimes left upon the stem, and it then forms the annulus or ring; often this is movable. With some varieties the entire plant, before issuing from the ground, is enclosed in a membrane, portions of which remaining upon the cap, form warts, and a part remains about the base of the stem, forming a sheath or volva. This is very important, as the presence of

these warts, and the volva is a guide to distinguish the deadly poisonous varieties.

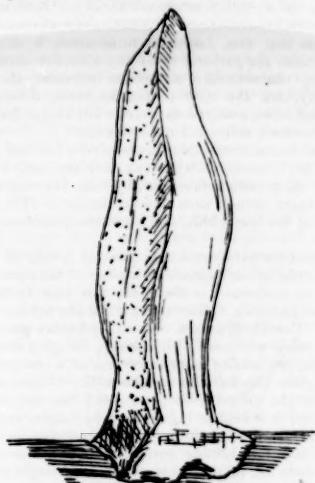


FIG. 3. *Fistulina*

Let us take up the first mushroom we find; we turn it over and see that the under side of the cap has teeth or spines; it therefore belongs to the genus *Hydnium* (Fig. 4). There are no poisonous species, but on account of the toughness and woody character of many, Dr. Badham says, "to eat must depend upon the united consent of the stomach and the teeth." The esculent variety is the *Hydnium repandum*, orange in color, two to five inches across, flesh white, turning yellow when cut, spines pale yellow.



FIG. 4.

There is no fungus with which this one is likely to be confounded; once seen, it is always remembered and may be gathered fearlessly.

We next find a mushroom with a spongy look underneath; this appearance is due to myriads of fine tubes; this satisfies us it is a *Boletus* (Fig. 5), a family which contains no members which are fatally poisonous. Vittadini says this "is not strictly the case, though many species hitherto reputed unwholesome, or worse, appear to lose their bad qualities by drying." Those having high-colored or red tubes have been considered poisonous, but no fatality is recorded. The mild-colored ones, with white, yellow or green tubes, if pleasant to the taste, are safe to eat, and sliced and fried in batter make a fair addition to our table.



FIG. 5.

This time our mushroom has neither teeth nor spines nor tubes, but has the radiating gills (Fig. 6); we are approaching dangerous ground, for among these are many whose poison is fatal.



FIG. 6.

There is no rule by which the good can be distinguished from the bad; this should be strongly impressed on the mind. That the skin of the cap peels readily, that they change color when cut or are bruised, that they do not tarnish gold or silver with which they are boiled, that the stem comes readily out of the cap or grows at one side, and a dozen other reasons, are all equally fallacious; there is no such rule which has not its exception, and here an exception may mean death. Safety lies in knowledge,—positive knowledge. You should know positively the variety or

varieties you venture to eat, and eschew all others. You should fix firmly in your mind the characteristics of those you venture to eat, so firmly that you can pick them from a basketful of all kinds. You know the difference between a squash and a pumpkin, and would make no mistake in taking one for the other; but it might puzzle you to describe the salient points so that your cook, who had seen neither, would choose by your direction from the kitchen garden the proper vegetable for an old-fashioned pumpkin pie, and not bring a squash, or possibly a bitter gourd. So it is with a mushroom,—you must know it, and know it positively; when once learned there should be no more chance for a mistake, than you would have in picking out a pumpkin.

The gill-bearing mushrooms belong to the family known as the Agaracini or Agarics; this is again divided into thirty or more genera, a division which concerns the botanist, but to us is of no value. A division which is of practical use to us is one made by noticing the color of the spores; this can be seen by an examination of the gills with a lens, or better by removing the stem, placing the cap, gill downwards, on a piece of glass, and letting it remain over night, although in some cases an hour or so will answer. The spores will be found deposited on the glass, and will show the radiation of the gills. When several mushrooms grow together and overlap one another, the spores are often found on the caps of the under ones.

Classifying the Agarics by the color of the spores, we have the following divisions :

- I. Leucospori, or white spored agarics.
- II. Hyporhodii, or pink spored agarics.
- III. Dermini, or brown spored agarics.
- IV. Pratelle, or purple spored agarics.
- V. Coprinarii, or black spored agarics.

Among the Leucospori, besides many others of which I shall not speak, will be found the following genera : *Agaricus*, *Lactarius*, *Russula*, *Cantharellus* and *Marasmius*, which contain both edible and poisonous species. The larger forms of these genera are rather easy of identification. *Agaricus* has three sub-genera which particularly demand our attention, namely, *Amanita*, *Lepiota* and *Pleurotus*.

The *Amanita* are distinguished from all others in having warts upon the upper surface of the cap, a volva and usually a ring. While some varieties are edible and much sought for, others are highly poisonous. These are the handsomest of our mushrooms, and are oftenest eaten by careless gatherers.

Notwithstanding the good character some varieties are given, a wise caution should prevent any but the experienced mycologists from essaying their edible qualities.

The *Lepiota* have one variety which can be mistaken for nothing else, the *lepiota procerus* or *parasol mushroom*. It is found in lawns and open fields, grows to an enormous size, has a long stem and is easily recognized by the brownish scaly top, the ring which is movable, and the absence of a volva. The scaly top differs from the warty top of the *amanita*; the warts can easily be removed, not so the scales which are simply the cap itself ruffed up. *Pleurotus* has one variety easily recognized; it is found only growing upon the elm tree and is edible, but to my taste of poor flavor.

Lactarius is a genus known by the milky juice which

exudes from the gills and from the cap and stem when broken. *Lactarius deliciosus*, or the orange milk mushroom, is a highly esteemed variety. Badham says "there is but one fungus which it in any way resembles, and as that one, *Lactarius torminosus* is acrid and poisonous, the gatherer must pay attention to the following characteristic difference between the two, namely, that the milk of the *Lactarius deliciosus* is red and subsequently turns green, while that of *Lactarius torminosus* is white and unchangeable."

The *Russula* resemble very much the *Lactarii* except that they have no milky juice; they are easily remembered when once pointed out, by their extreme brittleness, stout spongy stem and dry texture. They have some of the best edible, and also some poisonous varieties.

If you are sure you have a *Russula* it may be eaten, if, on trial of each specimen, a piece of the stem is not acrid or unpleasant to the taste; this rule holds good for the *Lactarii*. These two genera are destitute of a ring. *Cantharellus* is a very easily known genus, the stem being confluent with the cap, the gills thick and swollen, resembling more the veins of a leaf than the usual gills. *Cantharellus cibarius* or the "Chanterelle" is a bright yellow throughout, and has the odor of apricots; it is held in high esteem by fungus eaters.

While all the foregoing white-spored mushrooms are fleshy and soon become putrescent, *Marasmius* differs from them all, in that they wither in drought and revive when wet; they can be dried, and will keep for years, retaining all their good qualities, and when moistened they swell to their original size and are then ready for cooking. We have a very common variety which is esculent and easily recognized, namely, the *Marasmius Oreades* or *Fairy Ring Champignon*, also called the *Scotch Bonnet*. Its little buff head is seen on every lawn. It grows in segments of a circle, giving it its name of *Fairy Ring*. When once seen and carefully studied it should be mistaken for nothing else, although it is sometimes accompanied by those of about the same size, whose only resemblance is the buff color of the cap.

We have now glanced rather hastily at the white-spored mushrooms. But while many are most excellent, many are so poisonous that my advice to the novice is to wait until he becomes a student of mycology, before eating any except the *Parasol*, the little *Scotch Bonnet* and the *Elm Tree Mushroom*, and then the chance of any mistake will be reduced to a minimum. I am confident that all fatal cases of poisoning have been caused by eating those with white gills and spores; this I think is shown by the tables of cases which I have collected. Among the pink and brown spored agarics, are some which are edible, but their qualities had best be tested only by the professed mycophagist. The purple-spored agarics give us the two varieties which are so well known throughout the world and so highly esteemed for their edible qualities, namely, the *Agaricus campestris* or *Meadow Mushroom* and the *Agaricus arvensis* or *Horse Mushroom*. These so closely resemble one another that they are sold indiscriminately, and for the purpose we have in view they may be treated as one and the same. They are found in meadows, never in woods, their gills are of the most delicate flesh pink when they first appear above the ground, changing soon to a darker shade, finally becoming a dark purple almost black. The cap is dry, silky or downy, globular, with the margin

united to the stem by the veil which soon becomes a ring about the stem; when the cap expands, the latter being bell-shaped at first, and then almost flat. The stem is nearly solid, separates easily from the cap, and there is no volva.

It must be remembered that the volva is only found in the Amanita of the white spored, and the Volvaria of the pink-spored varieties, which latter we have not considered. The Pink Gill is the only species which is successfully propagated by man; vast quantities are raised in the caves about Paris; the young ones, that is, with cap unexpanded, are the button mushrooms of commerce. Many are raised by the market gardeners about Boston.

It is believed by many that the Pink Gill is never found except where cattle have been pastured, or the grass fertilized by their manure, the passage of the spores through their alimentary canal being in some way necessary for fertilization.

The Horse Mushroom sometimes grows to an enormous size; a specimen has been reported weighing fourteen pounds. These two, Pink Gill and the Horse Mushroom, are the only ones of the purple spored which had better be essayed, as other varieties are reported as causing symptoms affecting the nervous system. Of the black spored only those whose gills deliquesce into an inky fluid are considered as edible; of these there are several varieties; to one only shall I call your attention; it is so common and its characteristics so well known that a mistake seems incredible. I refer to the Coprinus comatus, or Shaggy Mane Mushroom, known also as the agaric of civilization, as it is found on dumps, dust heaps, and about lawns on newly-filled land. The cap or pileus is first oval and hard, the margin soon separates from the stem, leaving a ring, the margin quickly turns to a bluish black, and after expanding the whole plant dissolves into an inky fluid. The color is white to a brownish tint, the cap woolly or shaggy, caused by the skin peeling and curling up in small sections; the stem is hollow. This used to grow, and perhaps does now, in profusion in the grounds of the Massachusetts General Hospital. I have found it in various parts of the city. It is used in all stages to make ketchup, but to stew or broil it should be taken before it begins to turn black.

The only mushrooms of the agaric family which I think you are safe in trying, are the Parasol, Elm Tree and Fairy Ring of the white spored; the Pink Gill of the purple spored; the Shaggy Mane of the black spored. But first be sure of your knowledge.

These five varieties of agarics, with the mild colored Boleti, the spiny Hydnus, the Puff Balls and the Clavarias, will give you sufficient variety of fungoid esculents, until such time as you become a student of mycology and a professed mycophagist.

Let us recapitulate by looking at the figures and the following tables:

TABLE NO. 1.

Not Umbrella Form . . .	Puff Balls. Clavarias. Fistulina. Spines or Teeth = Hydnus.	Edible.
Umbrella Form . . .	Tubes or Fores = Boleti. Gills = Agaricini.	

TABLE NO. 2.

Agaricini.	Lemnospori, or white spored Agarics (see Table No. 3.)
	Hyperodii, or pink " " " not considered.
Dermini, or brown " " "	
Pratilini, or purple " " "	The Pink Gill.
Coprinarii, or black " " "	The Shaggy Mane.

TABLE NO. 3.

White Spores . . .	Agaricus. Lepiota — The Parasol. Lactarius. Pleurotus — The Elm Tree. Russula. Eaten on taste. Cantharellus. — The Chantereille. Marasmius. — The Fairy King.
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TABLE NO. 4 (Edible).

Without Gills . . .	Puff Balls. Clavarias. Fistulina. Hydnus Repandum.
With Gills . . .	(The Parasol (lepiota procerus). The Elm Tree (pleurotus ulmarinus). The Fairy Ring (marasmius oreocreas). The Pink Gill (agaricus campestris). The Shaggy Mane (coprinus comatus).

White spores.
Purple spores.
Black spores.

TABLE NO. 5.

The deadly poisonous AMANITA has	white gills, white spores, warts on cap, a ring, a VOLVA.
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The poisons of mushrooms may be as varied as the species from which they are derived, but the symptoms arising therefrom can be classified under two heads: (a) those which occur soon after ingestion, within an hour or so, and (b) those whose appearance is retarded for eight to twelve hours. The early symptoms are those of an irritant to the alimentary canal, as vomiting, purging and the consequent exhaustion; and unless the quantity taken was excessive, or the taker debilitated, the after effects would not be serious, or at least not fatal; not so, however, if the symptoms come on later; here we have the effects of an irritant narcotic, purging and vomiting are followed by giddiness, vertigo, precordial distress, labored respiration, contracted pupils, coma and death — the latter having occurred as early as thirty-six hours after the fatal repast. Most authorities agree that these more serious symptoms are only caused by the Amanitas, which you will remember as among those having white gills and spores. Some go so far as to state that it is only from these that fatal results have occurred.

To satisfy myself about this, I examined the literature of the subject, as found in the medical journals of this country, and have tabulated all the cases I could find recorded.

For ten years Mr. Palmer gave much time and study to mycophagy, and the results of his investigations he kindly placed at my disposal. He collected thirty-three cases, twenty-one of which were fatal. From other sources, — American medical journals, brother practitioners and the daily press, — I have forty-four cases, of which fourteen were fatal.

The tables are very unsatisfactory from their incompleteness, but are of value as bringing together, besides those collected by Mr. Palmer and the writer, all the cases occurring in this country which have been reported in the medical journals as noticed in the Index Medicus. Very many essential details are entirely omitted. By thus grouping the cases, the attention of practitioners will be called to these omissions, and future reports will perhaps be more carefully made. The headings used are believed to cover all important points. They are:

- (1) Number of case.
- (2) Name.
- (3) Date.
- (4) How cooked.

- (5) Description of plant.
- (6) Hour when eaten.
- (7) Taste.
- (8) Quantity eaten.
- (9) Symptoms began.
- (10) Description of first symptoms.
- (11) Description of later symptoms.
- (12) Treatment.
- (13) Result.
- (14) Length of illness.
- (15) Physician in attendance.

The writer will gratefully acknowledge reports of cases or references to the subject.

I will not detain you by reading the dry details of the tables I have prepared, but simply state that from my examination of the cases collected, I am confident that the fatal ones were due to eating such as had white gills, or had other characteristics of, or were known to be *Amanitas*. As the cases are mostly reported by those not versed in fungology, the descriptions are necessarily defective, but the mere statement that the under side of the mushroom was white, leads me to infer that the fatal result was due to an *Amanita*, writers so generally agreeing that death is not caused by other varieties.

From a study of the cases where the symptoms developed after eight or twelve hours, and more than a very small amount of the fungus had been taken, the treatment by the usual methods of giving emetics, cathartics, astringents or stimulants, combined or alone, has, I find, been universally unsuccessful; but when the chief reliance has been placed upon atropia, the results have been most brilliant. It is true that I have the records of fatal cases where this drug had been given, but in such small doses ($\frac{1}{10}$ to $\frac{1}{20}$ grain), that I was not surprised at the result.

The symptoms indicate a poison whose action is like that of morphia, and if it is to be combated successfully, the same treatment as used for an overdose of that drug must be given, namely, atropia in full doses, one-third of a grain at a time, for instance. One grain of atropia has been given in opium poisoning with success. I have treated at the Boston City Hospital, and reported a case of poisoning by morphia, where I gave three-fourths of a grain of atropia, — one-half grain at once, and one-quarter grain in ten minutes, — and saved the patient. Wharton and Stillé state that while one-sixth grain of atropia has caused alarming symptoms, death has not been caused by a grain; therefore, I think that when we have present as powerful a poison as that found in the mushroom, we had best use the antidote in moderately large doses.

The treatment by atropia is based upon the perfect antagonism which exists between this drug and the poison of the *Amanitas*, which has been separated by Professor Schmiedelberg, and named muscarin. The poison has been separated by others and variously named, according to the variety from which it was obtained. The merest trace of this alkaloid will arrest the pulsation of a frog's heart; and even after four hours Lauder Brunton states he has caused it to pulsate again by a minute quantity of atropia being brought in contact with the organ. This and other experiments showing the antagonism between these two poisons have been repeated by Prof. H. P. Bowditch at the Harvard Medical School. It acts as well upon mammals as upon frogs. My friend, Dr. F. H.

Williams, Assistant Professor of Therapeutics, tells me that he has recently brought the subject of mushroom poisoning and its proper treatment to the attention of his students in the Harvard Medical School.

In the treatment of such cases, general principles should only guide us to remove any of the poison remaining in the alimentary canal, by emetics and purgatives, to support the failing powers by proper stimulation. But the treatment should not stop here; our reliance must be upon an antidote; the poison already absorbed must be counteracted, an antidote must be used; and that antidote, I repeat, is atropia.

The course of treatment which has usually been followed in severe cases of mushroom poisoning, has been as efficacious and successful, and based upon as scientific principles, as the answer to the statement said to have been made by a southern professor, who lecturing upon tannic acid, remarked: "And by the by, gentlemen, tannic acid is the antidote to the poison of the mushroom; can any of you explain its action?"

"T-t-think I can, professor."

"Well, sir, explain to the class the chemical reactions that occur, and how tannin acts as an antidote to the poison of the poisonous mushroom."

"It f-f-forms the t-t-tannate of mush, and leaves room in the stomach!"

THE TREATMENT OF COLD ABSCESSES WITHOUT DRAINAGE: WITH REPORT OF CASES.

BY ROBERT W. LOVETT, M.D.

THE accepted methods of treating cold abscesses fall under three headings: (a) expectancy; (b) aspiration methods; (c) free incision and drainage.

The object of the present paper is to call attention to the possibility of doing away with drainage in many cases, and thereby shortening the time of healing.

The merits of expectancy against operative interference in cold abscesses have been discussed at length,¹ and the question is still unsettled in the minds of many. The tendency of modern surgery is, however, distinctly in the direction of more extended operative interference, and, except in the mind of the pure orthopedist, pus in a cold abscess is to be treated as pus is elsewhere in the body.

Methods of treatment by aspiration, with or without the injection of some germicidal solution, have been advocated by many writers, especially of late years, where many cures of abscess have been reported after the withdrawal of the pus and the injection of an iodoform emulsion or a solution of iodoform in ether. Apart from the danger of the injection into closed cavities of iodoform or corrosive sublimate solutions, the method is, in most cases, unsatisfactory, on account of the formation of more pus at the same site. The pyogenic membrane being left as the lining of the cavity, it is not surprising that the pus should form again so rapidly and so persistently.

The objection to the operative treatment of cold abscesses (an objection which pertains equally to the expectant method) lies in the failure of the wound to close, and in the persistence of sinuses at the seat of operation for months, and perhaps years. In forty-

¹ Transactions of the American Orthopedic Association, vol. II, p. 82.
New York Medical Journal, March 2, 1889.

three cases of abscess of the hip operated on at the Children's Hospital,² between 1884 and 1888, only one case is recorded as having healed within six months of operation, and about half of the sinuses healed within periods varying from one to two years, the rest remaining open almost indefinitely. These cases were all thoroughly cleaned out after a free incision, and were either packed with gauze, or, more commonly, drainage-tubes were inserted, and an antiseptic dressing applied. In the writer's personal experience the site of the drainage-tube was almost always the site of a sinus which persisted for a varying period of time.

The possibility of securing primary union even after so severe an operation as excision of the hip, has been claimed by Mr. Barker and Mr. Pollard; and a number of cases have been reported by them where it occurred.³ Drainage-tubes were not employed in any of these cases, and certain conditions were carefully observed. These were: removal of the diseased tissues, perfect asepsis, dryness of the wound, and light compression. Mr. Wright, of Manchester (who always had used drainage-tubes), in 140 cases of excision, which he had done at that time, had never seen a case of primary union. It would seem fair to conclude from the cases of hip-abscess opened at the Children's Hospital, as mentioned above, and from the excision-cases of Mr. Wright, that the use of a drainage-tube in these cases was likely to prevent primary union.

It is hardly necessary to point out the great discomfort that results from a sinus left at the seat of operation, and the decided advantage in avoiding it, if possible, by legitimate means.

To avoid, if possible, the sinus which the drainage-tube seemed always to leave after the rest of the wound was healed, the writer removed, in several instances, the tubes at the end of twenty-four to thirty-six hours after operation, but after the rest of the wound had closed, the hole left by the tube was still open to granulate, and generally continued for a long time as a sinus. The amount of discharge from abscesses which had been properly cleaned out was at first very small, and in many cases no pus appeared so long as an antiseptic dressing was continued on the wound; nevertheless, the sinuses continued to discharge serum, and when an open dressing was applied it turned to pus. The experiment was then tried of cleaning out the abscesses with especial care, and dressing them without the use of drainage-tubes, allowing the dressing to stay in place for two or three weeks. This seemed a decided improvement, as Case I will show.

CASE I. Katie M., ten years old; hip disease, acute. The child had been for some months under treatment by a traction splint; but the home surroundings were bad, and in April, 1890, a large abscess developed. May 10, 1890, the child was admitted to the House of the Good Samaritan, and a large abscess cavity was incised, which was found to extend anteriorly and laterally in all directions, and to contain about eight ounces of pus. Three incisions were necessary to reach it thoroughly. Carious spots were found on the pelvis, and the cavity communicated with the joint. The cavity was curetted, irrigated with 1 to 1,000 corrosive solution, then thoroughly dried, and dressed with corrosive gauze without drainage or packing. Light compression was

applied. The dressing was left undisturbed for two weeks, and at its removal no pus was found, but granulating patches were left at the seat of each incision where the edges were not in apposition; they were, however, superficial, and in two weeks the smaller ones were covered over, and the largest one, from an incision two inches long, was soundly healed in six weeks. The wound was firm, and the cicatrix is at present free from induration and healthy.

Similar cases operated on there, and at the Children's Hospital, and treated in the same way, yielded similar results, and much seemed to be gained by the permanent dressing. There was, however, always a patch of granulations where the edges of the incision were not in contact, and this at times degenerated into a sinus, but in most cases it was a superficial granulating patch, and not a granulating sinus, as in cases where a tube was used.

The following cases show the gain that was made by sewing up the incision so as to provide for the apposition of the edges of the wound:

CASE II. Bebbie G., eight years old; acute hip disease. The disease had been of two and one-half years' duration, and of average severity. In the spring of 1890, an abscess appeared on the anterior surface of the thigh, which increased until it was the size of a half orange. The child was admitted to the Children's Hospital, and the abscess was opened, May 13th, by an incision three inches long. Several ounces of pus were evacuated, and a sinus was found running into the joint. The pyrogenic membrane was removed by the curette in all accessible parts of the cavity, and the wound thoroughly irrigated with a 1-1,000 corrosive solution. Bleeding was allowed to stop, and the walls of the cavity were carefully wiped dry. Iodoform powder was blown in, and the wound was tightly sewed up with cat-gut and dressed with sterilized pads wrung out in a solution of corrosive sublimate 1-5,000. There was no rise of temperature, and eight days after operation the dressing was removed, and the wound was found healed by first intention throughout. The cicatrix has remained perfectly firm and soft, and there has been no accumulation of serum or pus.

CASE III. Catherine M., nine years old; hip disease, chronic. An abscess back of the trochanter was opened, and four ounces of pus evacuated. It communicated freely with the joint. The cavity was treated as in Case II, and the incision sewed up without drainage. At the end of eight days the dressing was removed, and union by first intention was found.

CASE IV. John G., eleven years old; hip disease. A large abscess on the outer aspect of the thigh was opened, and joint communication was established. The wound was treated as in the others, and tightly sewed up. At the end of twelve days complete union was found to have occurred. In these cases there was no rise of temperature whatever, and the progress of the patient was in every way satisfactory.

It would seem, therefore, that in many cases of cold abscess connected with bone disease, where from the nature of the case it is not possible to obliterate the whole abscess cavity or to exterminate the focus of disease, it is worth while to attempt to obtain primary union by careful cleansing and drying of the wound, and by its closure either by suture or by light compression, and by the application of a permanent dressing. With the use of drainage-tubes it is quite cer-

² Transactions of the American Orthopedic Association, vol. II.
³ British Medical Journal, December 15, 1888, p. 1177.

tain that a sinus will persist, as evidenced by the cases already quoted from the Children's Hospital series, and by the excision cases spoken of by Mr. Wright.

If union can be obtained in a week or two a very great gain has been made, and in properly selected cases it can hardly add to the risk.

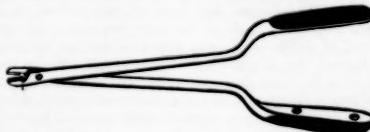
The cases reported by the writer were large, cold abscesses of average severity, connected with diseased bone during the acute stages of the disease. Abscesses of a very acute character, with much surrounding infiltration, would be manifestly unsuitable for such closure.

New Instruments.

ANOTHER NEEDLE FORCEPS.

BY W. L. BURRAGE, M.D.

THE accompanying cut represents my modification of the Baché-Emmet needle forceps, which, in turn, was a modification of the old Sims instrument.



The changes I have introduced have been: first, to shorten the jaws; second, to remodel them after the pattern of the forceps now in use at the Women's Hospital in New York; and third, to strengthen the shanks.

By shortening the jaws, greater leverage is obtained. By making the holding portion a narrow and roughened surface of steel opposed to a corresponding copper plate, the operator is much surer to catch his needle and less likely to break it, than with the former instrument having jaws with cup-shaped ends. By strengthening the shanks the holding power is increased.

In using the holder the operator separates the jaws, either by inserting his forefinger between the bends of the shanks or by allowing one of the handles to drop away by its own weight.

The advantages of this form of needle forceps are its simplicity, and its almost unlimited holding power; for it is so constructed that the handles cannot be made to touch, consequently the tighter they are grasped the more secure the hold on the needle.

The instrument is made by Codman and Shurtleff of Boston.

— The regular Paris correspondent of the *Medical Press* (September 3d) makes the very curious statement that when twins are born in France, the last born is considered by law to be the eldest! Consequently, if both survive, and, in the case of boys, reach manhood, the second is called to the army to serve, being pronounced the eldest. By some extraordinary calculation the medical men who were consulted at the passing of the Act, years ago, came to the conclusion that the last born of twins was always the first conceived.

Reports of Societies.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPEDIC SURGERY.

STATED Meeting April 18, 1890, V. P. GIBNEY, M.D., Chairman.

HEMATOMA OF THE STERNO-CLEIDO MASTOID MUSCLE.

DR. A. B. JUDSON presented a patient, four and a half weeks old, who had been referred to him as a case of congenital torticollis. There was a long, fusiform tumor in the course of the muscle, the hardness of which suggested a short and fibrous sterno-cleido mastoid. There was, however, but little shortening, and no wry-neck. The condition was supposed to be the result of injury to the muscle in parturition. Dr. B. E. Hadra, of Texas, had reported two cases which had been relieved by tenotomy, and Dr. F. D. Brooks of New Hampshire, had followed with a report of three cases, which had recovered by expectant treatment, or the use of friction and local applications. In the present case, a favorable prognosis had been given without special treatment.

A NEW BED FOR USE IN HIP DISEASE.

DR. A. M. PHELPS presented a little girl with hip disease, who had been treated on an improved surgical bed, which was also exhibited to the Section. When she came under his care, there was flexion nearly to a right angle, adduction, sinuses and an abscess, and the liver was already enlarged. His improved bed consisted of the ordinary iron bedstead found in hospitals, to which was added a convenient arrangement for the application of traction. The iron bed-posts at the foot of the bed was continued upwards much higher than those at the head. An iron cross-bar slid up and down on these foot-posts, and could be fastened at any height, so as to make traction at any angle desired. This cross-bar carried a pulley, which could be adjusted laterally so as to make traction directly in the line of deformity. The side-bar of the bedstead was also fitted with an adjustable pulley for the purpose of making lateral traction. This apparatus cost about five dollars, and could be supplied by Reynders, either with, or without the bedstead.

The patient whom he exhibited, had been treated by traction in this bed; but this was not sufficient to overcome the deformity. Under chloroform, the tensor vagine femoris and fascia lata, the adductors longus and magnus, and the contracted anterior border of the glutei muscles and the rectus femoris, were divided. Traction with a weight of eight pounds was then applied in the line of the deformity, and a force of two pounds at right angles to this. After two months, the deformity had been for the most part reduced, and his splint, with crutches and a high shoe, was then applied to prevent a relapse, and they would be continued until the case was cured.

DR. R. H. SAYRE presented

A CASE OF CONGENITAL LOCK-JAW.

No definite history could be obtained concerning this boy, except that he was five years of age, and that nothing unusual had been noticed about the jaw until a short time ago. The boy was quite intelligent, and no other joints were affected. The jaw appeared to be subluxated backwards, and the deformity was pre-

sumably congenital. The recession of the jaw, and the apparent atrophy on both sides, added to the interest of the case. Dr. Sayre said that before adopting any operative measures, he would attempt to relieve the case by stretching; and for this purpose, would employ a wedge-shaped instrument devised by Dr. L. W. Hubbard, and presented last year before the Society of the Alumni of Bellevue Hospital. It consisted of two plates of steel, fastened together by a separable hinge, and capable of being separated at the other end by turning a screw. Having partly separated the jaws of the instrument, a cork could be inserted between the plates, near the hinge, and the action of the screw reversed, when the instrument would exert considerable pressure on the molar teeth.

Dr. W. R. TOWNSEND presented two cases of

RACHITIC POSTERIOR CURVATURE OF TIBIA.

He said that the dispensary records showed that about two years ago, there was a well-marked knock-knee and rachitis in one case, who returned last week with the present peculiar condition of the tibia. Since then, the other case, with a similar deformity, had come under observation. The latter case presented an increased growth of one portion of the tibia, amounting almost to an exostosis. It also showed a well-marked "rachitic rosary." MacEwen had called especial attention to these secondary bone formations on the inner side of the knee in cases of knock-knee. The posterior curves of the tibia were rarely seen, these being the only cases met with during the past two years at the Hospital for Ruptured and Crippled.

DR. S. KETCH reported a case of

RHEUMATIC (?) ARTHRITIS OF KNEE.

On July 3, 1888, he was asked to see the following case in consultation with Drs. Lawrence Johnson and N. J. Hepburn:

E. S.; single; twenty-two years of age: having a good family history, had been perfectly well up to the present illness, and denied having had any venereal disease; an examination of the urethra failed to show the presence of a urethritis. Early in May, 1888, he had a slight attack of what was considered to be rheumatism in the left elbow and right thumb, which left these joints in a few days, and lodged in the right knee. No other joints became involved; but he grew steadily worse under treatment for rheumatism, and emaciated rapidly after the involvement of the knee. When first seen by Dr. Ketch, he presented the facies of extreme suffering; the knee-joint was flexed beyond 90°; and was very much swollen, and excessively tender; there was manifest atrophy of the thigh and calf; pulse 120, temperature 103.5° F. He had had no chill. Anodynes were constantly required, and his general health was failing rapidly. The urine was abundant, and was free from albumen. Urates were in excess. The acute symptoms continued unabated after the constant application of ice, and the administration of morphine and the salicylate of soda for several days, the patient was etherized on July 12th, and the knee straightened with the exercise of as little force as possible. Adhesive plasters were applied from below the knee to above the malleoli, and plaster-of-Paris over this, with reinforcements by steel bars, the joint being left exposed. The limb was elevated, ice-bags applied to the knee, and traction made in a straight line by a weight of ten pounds. This was

followed by speedy relief, and a reduction of the temperature to 100° F. On the following day, the swelling had greatly increased, but the limb could be handled quite freely. The joint was firmly bandaged, and the ice continued. On July 16th, Dr. Gibney saw the patient, and advised a continuance of the treatment regardless of the swelling. The patient did not then require anodynes; appetite was improving; and the temperature had fallen to 99° F. Ice-bags were continued during the month of August, and the local tenderness diminished more rapidly than the pain on motion. When the splint was removed early in October, there was scarcely any motion at the articulation, and the joint could be freely handled without complaint. A retention splint was applied, and the patient allowed to go about on crutches.

In April, 1889, the ankylosis was complete, and he was enabled to return to work. He could, at present, walk long distances without fatigue, and his general condition was good. The chief points of interest in the case, were regarding the etiology and the treatment. He believed that there were cases of rheumatism like this one, in which the rheumatic process was modified or entirely changed in character. The presence of a poison in the system was undoubted; but it was remarkable that it should have been so mild at the time the elbow and thumb were attacked; and then have become so concentrated in the knee-joint as to practically destroy it. Rheumatoid arthritis was usually a chronic process involving numerous joints, and eventually crippling them; but such a process was not found in the present instance. The subject of treatment was important as bearing on the treatment of joints affected with rheumatism; and he was positive that his case would have resulted in a bad deformity, if he had not, in the beginning of his treatment, secured a good position of the limb.

DR. GIBNEY had seen a great many cases of hematoma of the sterno-cleido mastoid muscle, and they invariably got well. He had often wondered whether in some cases of congenital torticollis, actual shortening of the muscle had not been caused by long-continued holding of the head in one position, necessitated by the presence originally of a large hematoma. In these cases of hematoma, there was probably laceration of some of the muscular fibres, with escape of the blood into the sheath, or into the muscular tissue itself.

DR. N. M. SHAFFER said that he had made measurements of the length of the sterno-mastoid muscle in these cases, as well as in normal cases, and his observations showed that there was an arrest of development in the affected muscle, which suggested a possible central lesion, involving the spinal accessory nerve. These cases might arise from traumatism; but unless the destruction of muscular tissue was very great, it would not account for the total arrest of growth.

DR. KETCH thought that the existence of some deformity in Dr. Phelps's case after such extensive division of the muscles, showed the fallacy of depending altogether upon dividing muscles for the rectification of the deformity of hip disease. As long as the bone disease was active, and muscular spasm was present, deformity would return from this spasm, even after division of the muscles.

DR. SHAFFER also thought that division of the muscles offered only a temporary relief. He had frequently seen recurrence of the deformity after such a procedure in disease of various joints, and especially

in cases of tetanoid paraplegia. An examination under ether would determine the amount of muscular resistance; and the breaking up of the intracapsular and extracapsular adhesions, together with subsequent maintenance of the straight position, were all that could be expected in the way of preventing ultimate deformity.

DR. R. H. SAYRE said that much less traumatism was inflicted by dividing the muscles first, rather than by trying to reduce the deformity with the muscles in a state of tension. Dr. Ketch's remarks simply emphasized the importance of proper mechanical treatment after division of the muscles.

DR. KETCH said that if the reduction of the deformity could be accomplished effectually by mechanical treatment alone, he did not see the advantage of the operation. In answer to a question from Dr. Phelps as to what he would do with a deformity which had not yielded after one year's treatment by traction, he said that such a deformity was probably due to intra-articular changes, and was independent of the muscles; and he would therefore prefer exsection, or other bone operation.

DR. JOHN RIDLON wished to join the ranks of those who believed in rapid reduction of the deformity—slow reduction caused needless traumatism. In some cases the deformity could be rapidly reduced by mechanical means and without anaesthesia; others required anaesthesia; and still others were not reducible even then. In this latter class the first indication was a division of the soft parts, and the second, was to maintain the good position until a cure was effected. The average case of flexion through an arc of forty-five degrees, required from twelve to eighteen weeks of treatment with the traction splint, for its reduction; and the advocates of the traction splint had just confessed that the deformity would recur after such treatment. The deformity should be overcome in at least a fortnight. Thomas's hip-splint would keep the leg straight, and prevent flexion, adduction and abduction.

DR. A. B. JUDSON had not found that the muscles seriously interfered, in the acute stage of the disease, with the reduction of the deformity; and he considered that the reduction could be effected by slow and painless methods, without any harm to the patient. The difficulty in overcoming the deformity was a purely mechanical one, arising from insufficient leverage,—only the short distance from the acetabulum to the crest of the ilium.

DR. PHELPS, in closing the discussion on his case, said that the muscles were not divided to overcome reflex muscular spasm, but to overcome deformity; and in obstinate cases of long standing, like the one just presented, this was a safe procedure; while excision of the hip-joint was a serious one. He had not wished to cut the muscles more deeply, and the deformity, although not completely reduced at the time of operation in October, was being constantly diminished by the treatment employed. Statistics showed that a very small percentage of cases treated solely by mechanical means recovered without deformity; and therefore a resort to operative methods in a certain class of cases, and subsequent mechanical treatment, offered better hopes of success. He would be sorry to cut a tendon and have the case relapse; it would indicate improper treatment. He did not believe in trying to overcome the deformity by Thomas's splint,

or any other. During the treatment, in order to get proper leverage, and hold the patient quiet, a long splint was applied to the well leg, extending to the axilla, and the body, limb and splint enveloped in plaster-of-Paris. No splint could overcome the deformity, or possibly prevent it, which did not pass up to the thorax. The idea of allowing the patient to walk upon a splint, or upon the diseased limb, was a heresy, which we would eventually renounce. The patient, in his opinion, should use crutches, and he thought that Thomas struck in the right direction; but the splint should be fitted to the patient, and not the patient to the splint. Extension in a line with the axis of the neck of the femur was also necessary to relieve intra-articular pressure by overcoming the contraction of the adductor and abductor muscles.

DR. JUDSON thought the physiognomy of the case of partial ankylosis of the jaw was one of arthritis, and the deformity was directly due to the inability to use the jaw, and was not the result of the peculiar shape of the bone. Operation seemed much more successful than the stretching process.

DR. PHELPS concurred in this opinion, and added that in his experience, good results had followed resection of *one* of the temporo-maxillary articulations, as ankylosis was usually found only in one articulation. An incision, one and a quarter inches long, was made along the zygoma, and the articulation exposed. Chiseling away the articular surface was all that was necessary to cure the case. His cases had presented evidences of arthritis. The ankylosed joint was always on the side of non-development.

DR. SHAFFER remarked that if he had not heard the history of the case he would have supposed that the patient had had Pott's disease, and had been treated with an apparatus in which the chin-piece had been forced too far backward. He thought there was much rigidity on both sides of the jaw. If the part relaxed under ether, the evidence would be in favor of arthritis; but if not, it would indicate a permanent contracture, and would demand operation.

DR. GIBNEY said with reference to the case of posterior deformity of the tibia, that nothing but an osteotomy would correct the deformity. While under ether, the operator should endeavor to bring the fragments nearly into line, and then apply retentive apparatus. Subsequently, a supra-condyloid osteotomy would be needed. By doing a Macewen's or a Macormac's operation, the subsequent dressings would in a great measure correct the antero-lateral curvature. He had frequently seen this occur, sometimes to a marked extent. It was possible that the long rest in bed might have made the bone more yielding.

DR. SHAFFER thought that the case of arthritis presented by Dr. Ketch, answered very well the complete description given by Niemeyer, of arthritis deformans. He considered this nothing more than chronic articular rheumatism, and he had seen it both with and without high fever. It closely resembled gonorrhreal rheumatism, even in cases where gonorrhea could be absolutely eliminated.

DR. H. W. BERG said that he had seen a case of gonorrhreal rheumatism of the ankle-joint, which was quite thoroughly ankylosed, and did not recover its function for nearly two years. In such cases the lesion affected chiefly the soft parts, the inflammatory products binding down the tissues so firmly that the joint was virtually ankylosed.

DR. R. H. SAYRE had seen a severe case of arthritis similar to the one presented. After confinement to bed for eight months, suffering from severe pain and high fever, the knee-joint seemed to be absolutely ankylosed, and the patella immovable; but vigorous and persistent massage had secured, after about one year, pretty fair movement. The fact that the joint, in the case presented, was a little tender, was in favor of the ankylosis not being complete; for the tenderness arose from the pain caused by an almost imperceptible motion of the joint. Persistent and careful efforts at moving the knee-joint, not sufficient to cause pain, lasting many hours, would probably give the patient a movable joint.

DR. JUDSON called attention to the admirable position of the limb, remarking that a perfectly straight limb was much more stable than one bent at ever so slight an angle. These cases of stiff knee should wear a "lift" on the shoe of the well side, to enable the stiff knee to readily swing past the other, and so avoid awkward tilting of the pelvis at each step.

DR. PHELPS thought that in Dr. Ketch's case there was fibrous ankylosis, and that by breaking this up, motion could be secured. In one such case, while forcibly reducing the deformity, the femur was fractured without the exercise of much force; and he called attention to this, because, after prolonged rest in one position, the bone frequently underwent fatty degeneration, sometimes only a shell of bone remaining. Union of the fracture in his case, took place normally. He did not think there was much danger of exciting inflammation by forcible manipulation in these cases, unless the joint had previously been purulent.

DR. SHAFFER's experience had led him to believe that there was considerable danger of exciting inflammation by such treatment; and he would prefer a stiff joint in good position to incurring such risks.

DR. KETCH, in closing the discussion, said that he believed his case belonged to a class which had never been accurately described. In ordinary cases of arthritis deformans, there was involvement of other joints. This was not true of his case; and the sudden onset of such acute symptoms, and the speedy occurrence of ankylosis, were certainly unique. His patient had far too useful a limb to make him desire to incur any risks by employing forcible manipulation.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

REGULAR Meeting, Monday evening, February 3d,
DR. J. H. McCOLLOM in the chair.

DR. M. H. RICHARDSON read a paper on

SUPPURATIVE INFLAMMATION OF THE KNEE-JOINT TREATED BY DRAINAGE THROUGH THE POPLITEAL SPACE.¹

DR. CABOT asked the reader how far into the joint he would carry the end of the tube, it being in the popliteal space?

DR. RICHARDSON said: It is impossible to carry it in between the condyles. If you carry a drainage-tube in between the condyles, and shut the knee up

you will crush it. I tried it on the cadaver with a steel director, and crooked it all up. There is plenty of room for drainage, however, on account of the shape of the femur. It would be better to put one tube above and one below, than one on each side.

DR. CABOT: It seems to me a tube through the popliteal space, unless supplemented by a tube above, would be rather precarious. Inasmuch as the end of the tube would project only a very short distance into the joint, I should think it might be easily displaced. Carrying the tubes carefully behind in the manner Dr. Richardson has shown would be, I should think, very satisfactory.

In connection with this subject I should like to speak of a case which is interesting as showing how good the drainage of the joint can be made by lateral drainage. The patient had an enormous old synovitis. Compression had made no diminution in its size, and almost everything had been tried. I etherized him, and introduced first an aspirating needle, and nothing came; then a large trocar, and nothing came, and finally, I made a large incision, and emptied out of the joint a double handful of large clots of fibrin, I suppose they would be called, very tough and very large. Then the joint became flaccid and came down, and I introduced the tubes that Dr. Richardson has spoken of, only I introduced two below, one on each side, and also entering the joint from above. Through this upper opening all the fibrinous material had been removed, and afterwards the opening was used for drainage. The temperature hardly went above the normal line. The man made a first-rate recovery with good motion in the joint, showing that the drainage was perfectly free. I have used this method of drainage in a great many cases. If I had drained through the popliteal space I should have feared that the tube might more easily slip out of the joint cavity than a tube that would reach in some distance from the side.

DR. RICHARDSON: In anteroposterior drainage there is plenty of room for the tube to go right beside the crucial ligaments. I think Dr. Cabot is somewhat mistaken in regard to popliteal drainage. There are large spaces on each side of the check ligaments allowing room enough for drainage.

DR. C. B. PORTER: Dr. Richardson's statement I am ready to accept, that there is plenty of room at the side of the crucial ligaments, because he has tried it to see; but my impression in regard to the conformation of the joint was that there was a very small amount of space. I have had no experience with regard to posterior drainage through the popliteal space. I have had considerable experience with regard to lateral drainage, and I cannot at this moment recall a case in which it was otherwise than satisfactory. I think, however, that the secret of success by lateral drainage is the thorough manner in which the joint is cleansed at the time of operation, and the manner in which it is kept aseptic after the operation. I have had to resort in a number of cases to putting the leg into an antiseptic bath, and keeping it there by the hour, allowing the antiseptic fluid, in that way, to penetrate all parts of the joint. I have in mind now a child who had acute suppurative synovitis from opening the joint with a nasty piece of tin. The wound was sewed up, and a number of days later the boy was brought to the Massachusetts Hospital. The boy was treated by a phenyle bath every day for two or three days, until the temper-

¹ Publication deferred.

ature became normal. He recovered with perfect motion; but the secret of recovery to my mind was not so much in the perfect drainage of the joint, as rendering the joint perfectly aseptic by the use of phenol.

Within the last week I have had occasion to unite the patella, and the ligamentum patellae in a child who was blown off the train in crossing from one platform to another; and during the last three days he has had a normal temperature. The only drainage-tube was a quill drainage-tube after syringing the joint. He had quite a variable temperature for a short time, but I attributed it to his general condition. He received at the same time a severe scalp wound down to the skull and a lacerated wound on the other leg, which looked as though some one had started to do excision of the knee on both joints, one opening the patella and ligament, and the other laying them bare.

Dr. Cabot's criticism with regard to the ease with which a tube would escape from the posterior surface of the joint, is one which needs further elucidation before surgeons would accept it. The popliteal space is, in many thighs, a very deep space to go into, and it seems to me that the only space is the one Dr. Richardson has represented inside of the popliteal artery. The nerve is to the outside, the artery to the inside, and the vein between, but all on different planes. The nerve is most superficial, and finally before you reach the artery in that line, you have arrived at the midline of the popliteal space. The knee-joint is pretty deep in a good many popliteal spaces, and it makes a deep dissection in a small triangular space; and that in the hands of any other than a skilled surgeon or anatomist, is a much more dangerous operation to the patient than a more free incision on the sides. I think the great point is rendering the joint thoroughly antiseptic on opening it. I think we shall achieve more brilliant results in that way, than by trying to establish any better drainage than we have.

DR. A. T. CABOT showed a specimen of

DERMOID CYST OF THE OVARY,

containing a large mass of hair. The fluid which was drawn from this cyst was thick and oily, but ran easily through a small trocar; on standing it hardened into a mass which had exactly the appearance of ordinary butter.

The patient was a young woman, married, and had had one miscarriage. The tumor had been discovered seven or eight years ago, being at that time smaller than a hen's egg. Its growth had been slow, and today, when removed by operation, it was but little larger than an adult fist. For the past year or more it had caused much pelvic pain, especially marked when it was crowded down into the pelvis alongside of the uterus; at such times, Dr. C. M. Garland, who was in attendance, was able to afford relief by lifting the tumor to a point where it was not wedged.

It was quite adherent, apparently owing to the slight inflammation which started up from time to time around it.

DR. FAIRFAX IRWIN, Surgeon Marine Hospital Service, showed

A LARGE SURGICAL KIDNEY,

and gave the following history of the case.

L. C., aged thirty-eight years, seaman, was admitted to the United States Marine Hospital, Chelsea, Mass.,

November 18, 1889, and died February 3, 1890. The patient was admitted for organic stricture of the urethra with perineal and rectal urinary fistulae. The stricture was very deep, near the neck of the bladder, and by reason of its cicatricial character, and the numerous fistulae, very difficult to enter. A Banks' filiform bougie, however, was passed every other day, with a view of dilating for Otis' urethrotome. Treatment proceeded with many interruptions until the urethra was thought to be sufficiently dilated. Nothing abnormal was found in the urine, and a day for the operation was set. Influenza, however, appeared January 15, evening temperature 39.4° C. The temperature showed a downward tendency until January 27 it became subnormal. At this time catarrhal pneumonia supervened, temperature sank lower and for the last three days of life ranged between 35° C. and 36° C. The patient died February 3, 1890.

Small doses of quinia were given early in the disease, but no other antipyretics, as might be supposed from the temperature. Alcohol, tincture of digitalis and ammonia were used.

There was some constipation but no trouble with urine. Surgical kidney was thought probable from the long-continued obstruction of the urethra.

Autopsy five hours after death.—Body well nourished. Slight rigor mortis. Heart and pericardium normal; weight of heart, 380 gms.

Lungs: Marked inflammation of finer and terminal bronchial tubes; lung-tissue highly congested, with some pleural ecchymosis. Pleural adhesions general and of recent formation. Weight of right lung, 600 gms.; left lung, 417 gms.

Liver normal; weight, 1,790 gms.; but was displaced upwards considerably by the enlarged kidney beneath it.

Right kidney enormously enlarged, with four or five large cysts filled with purulent urine. The walls of the cysts were very thick, about two centimetres, except over the largest cyst, over which there was nothing but the capsule of the kidney. The cortical and medullary substance was filled with small abscesses, containing pus. All the cysts together contained about five hundred cubic centimetres of fluid. The ureter was completely occluded by the new growth, which encircled the gland. Weight, 1,335 gms.

The left kidney weighed 760 gms., and was intimately adherent to the abdominal walls, and the descending colon. Kidney tissue, with the exception of a narrow ring of cortical substance, retaining to a slight degree the outlines of the gland, was replaced by the new growth which extended down into the pelvis, along with the ureter, involving all the vessels and nerves in that region, and completely investing the bladder except above and in front. The mucous membrane of the bladder was paler than usual, but no other abnormality was seen.

The descending colon was filled with hardened feces, due to the obstruction.

This new growth had all the macroscopical appearances of adipose tissue, but was harder on section.

On the posterior part of the membranous urethra was an organic stricture, almost entirely occluding its lumen, and just behind it were several fistulae, one leading into the rectum, one into an abscess just in front of the prostate gland, and a third opening on the perineum.

DR. M. H. RICHARDSON showed a patient who had

had successively the supraorbital, infraorbital at Meckel's ganglion, the buccal, inferior dental, and the inferior maxillary nerve destroyed. A striking feature was the slight deformity caused by these operations. The operation ought not to be called a new one, for I think it may be practically the same as Pancoast's operation. It seems to me it is an operation any anatomist would have done in this way and in no other way.

Recent Literature.

Enquête sur la Grippe.

We have received from the French Academy of Medicine a copy of their circular with the above title. The scope of the inquiry includes a series of questions which are quite similar to those embraced in the circular of the State Board of Health of Massachusetts issued last winter. They are as follows:

(1) Date du début de l'épidémie: (a) dans les grandes villes, (b) dans les petites villes, (c) dans les campagnes.

(2) Date du début de l'augmentation de la mortalité (complications): (a) dans les grandes villes, (b) dans les petites villes, (c) dans les campagnes.

(3) Semaine dans laquelle la mortalité a été à son maximum: (a) dans les grandes villes, (b) dans les petites villes, (c) dans les campagnes.

(4) Date à laquelle l'épidémie a pu être considérée comme terminée: (a) dans les grandes villes, (b) dans les petites villes, (c) dans les campagnes.

(5) Faits démontrant la transmission: (a) prisons, (b) collectivités, (c) bateaux. Tenir compte dans cette étude des voies de communications (chemin de fer routes, etc.?).

(6) Formes de la maladie.

Quelle a été la forme au début?

A quel moment sont apparues les complications pulmonaires?

Part des ces complications dans la mortalité.

Rôle de ces complications dans la transmission.

Rechutes.

Gripes prolongées.

(7) Influence des états morbides antérieurs sur la lithalite. (Maladies du cœur, phthisie; affections cérébrales, médullaires.)

(8) Recherches microbiologiques.

(9) Observations particulières.

— The final report of the Johnstown Flood Relief Commission gives an account of the disposition of the \$3,740,000 that was poured through their hands. One paragraph of this document refers to the early, constant and yet unended medical relief that had its origin in the great calamity. It is not generally known, says the New York *Medical Journal*, that the sum of \$40,000 has been set apart for the construction and equipment of a memorial hospital, and that a committee of the commission is now engaged upon the work. This hospital, when completed, will replace that which was established by the Red Cross Society of Philadelphia, and afterwards transferred to the charge of the local profession. The commission was led to construct the hospital by the evident necessity, during the present generation at least, of furnishing medical aid to many injured survivors of the great flood.

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POST-GRADUATE STUDY IN ENGLAND.

It is often a source of surprise to many that American students of medicine should prefer to supplement their studies by additional work in France or Germany rather than in England, and the concourse of students to Vienna, is looked upon as a matter of fashion.

London possesses many hospitals well filled, and men of the greatest eminence as teachers whose names are well-known on this side of the Atlantic, and who ought to attract many of the students who now flock to the German universities. As a matter of fact, few students from the United States pretend to do any studying in London. A few visits to the hospitals to compare them with those of their native country, and note the most obvious differences, and to catch a glimpse of the men whose names have the greatest attraction, comprise the general experience of the American. Those who go further in the medical schools of London are few indeed. The reasons are obviously not in the want of clinical material nor of eminent teachers, but in the lack of opportunities for special study for qualified practitioners.

One of the great attractions of study at Vienna lies in the fact that the young medical graduate can, without trouble, enroll himself as a member of classes for the study of any particular branch of medicine. Such classes are numerous. In London one does not easily gain the right to watch the clinical procedures without becoming a regularly enrolled member of the school, and regular courses for post-graduates available for graduates of the medical schools of other countries were practically unknown until the present year. Post-graduate instruction has this year been undertaken, and the prospectus of its third course is before us. The general plan differs from the post-graduate instruction of this country very decidedly in that it consists of a definite course of seventy-two lectures and demonstrations extending over a period of two months, from October 13th to December 5th, and embracing the practice at the following hospitals: the Brompton Hospital for Diseases of the Chest, the

Great Ormond Street Children's Hospital, the Hospital for the Paralyzed and Epileptic, the Moorfields Ophthalmic Hospital, the Hospital for Diseases of the Skin, and the New Infirmary at Paddington. The lecturers number twenty-nine, and comprise some of the best known of English medical men. The course, itself, is an attractive one to those desiring general culture, but not to one anxious to perfect himself in special subjects. But the practice of the hospitals mentioned is opened to gentlemen attending the course on payment of small fees. This latter point is a great concession, and adds very materially to the attractiveness of the prospectus.

The number of graduates of American medical schools who desire to supplement their American studies by further study abroad is very great, and if opportunity is offered in England, the ease of access and the advantage of their native language cannot fail to attract many.

ON THE TREATMENT OF ANÆMIA.

At the Berlin Congress, Laache, of Christiania, Norway, referee, spoke of the treatment of anæmia. We must confess, he said, that in the domain of therapeutics, we are still almost entirely reduced to empiricism.

In the first place, we are to attend to diet and other hygienic measures. The diet should vary according to the state of the digestion, and should especially be free from sameness. The benefits of forced feeding and of artificial aliments (peptones and the like) are very doubtful.

There is only one certain indication for iron, namely, true primary chlorosis. Here it acts as a real specific, just like quinine on malarial fever. But as to the *modus operandi* of iron, we are in the dark. The most recent hypotheses according to which it acts as a simple haemostatic in the intestine, are far from being proved. The speaker preferred Blaud's pills to any other ferruginous preparation. If they are not borne, he tries the solution of albuminate of iron.

Arsenic gives especially good results in progressive pernicious anæmia. Its mode of action is as obscure as is that of iron. We know, however, that in the cases where iron is useful (chlorosis) the hemoglobin is diminished absolutely (globules are few in number and pale), while in pernicious anæmia, the hemoglobin is only relatively diminished; the globules are not pale, but of a deeper hue than in the normal state.

Iron, then, seems to act particularly on the hemoglobin.

In certain cases, purgatives are good in chlorosis; some have even designated a special form as *fecal anæmia*. Here, we may suppose the existence of a chronic poisoning by feces stagnating in the intestine.

There is a difference of opinion as to the utility of oxygen-inhalations.

Transfusion is especially indicated in pernicious or post-hæmorrhagic anæmia.

Koenig, of St. Petersburg, at the same meeting alluded to the benefits which he had derived from subcutaneous injections of Fowler's solution in pernicious anæmia. He injects five drops of this solution diluted with twice as much water, and continues the injections once a day for eight or ten weeks.

MEDICAL NOTES.

— "A jelly-fish slavery" is the term applied by Dr. Norman Kerr in the recent discussion on hypnotism at the meeting of the British Medical Association to the condition of hypnotized persons, a condition, he adds, worse than days and nights of pain.

— The exact statement as to the composition of the Berlin Congress by nations is given officially as follows: On Tuesday evening at 6 o'clock there were 7,056 members' cards sold. Of these, 5,561 were visiting physicians; 116 were contributors of papers, etc., in the meeting; 1,379 were ladies' cards. Of the 5,561 visiting medical male members there were from the provinces of Germany, outside Berlin, 1,658; from the town of Berlin alone, 1,157; Austria-Hungary, 257; Great Britain and Ireland, 353; Netherlands, 111; Belgium, 61; Luxembourg, 2; France, 171; Switzerland, 64; Italy, 144; Spain, 40; Portugal, 5; Sweden, 106; Norway, 58; Denmark, 139; Russia, 421; Turkey, 12; Roumania, 32; Bulgaria, 5; Greece, 5; Malta, 2; Monaco, 1; Servia, 2; United States of America, 623; Canada, 24; Brazil, 12; Chili, 11; Cuba, 4; Trinidad, 1; Mexico, 6; Hayti, 1; different parts of America, 24; Egypt, 8; Cape Colony, 1; other parts of Africa, 5; China, 2; Japan, 22; East Indies, 2; India, 2; Australia, 7. A few hundreds who came during the last four days of the Congress are not included in this analysis.

— Dr. Howard Smith, a special quarantine inspector, detailed in Central America to report to the New Orleans Board of Health cases of yellow or suspicious fevers there, has just sent to the board the following report:

"The whole of this coast is malarial, but I have not been able to discover any yellow fever. One reason that some of the fevers are so malignant is on account of the habits of the people; they drink to excess a liquor called white rum, said to be almost a poison, and after getting drunk, lie down on the wet sand or exposed to the night air. Of course fever follows, and they will suffer from several attacks the first year or two. Their food consists of fruits, salt and fresh meats, but not cooked in the best style. The climate is delightful, and with care there is no reason why the people should not be healthy. Ruatan and Truxillo are very clean towns. There is no danger to the United States of fever on the Spanish Honduras coast. There is, no doubt, some yellow fever there, but the principal sickness is malaria."

— Among the outbreaks of cholera which occurred in Burma last year, says the *Indian Medical Gazette*,

there was a remarkably sudden visitation at the Moulmein Jail. One evening the prisoners were conducted to their dormitories in the usual manner without the slightest indication that there was anything wrong. At midnight the seizures commenced, and by six o'clock the following morning nine men had been attacked, and every one of them died. When the day came to a close 31 out of a total of 674 convicts were struck down, and the following day the number of seizures was increased by 17, giving for the two days 48 attacks, of which 38 ended fatally. On the third day there were 15 more seizures, so that in three days ten per cent. of the jail population suffered. Cholera camps were formed outside "the zone of jail influences," but it was some time before the scourge could be shaken off, and by order of the commissioner 136 convicts were released.

— A correspondent writing to a daily contemporary regarding the cholera in Spain and Egypt, says that orders by the Egyptian Government for the temporary closing of the great carpet and rug bazaars at Cairo and Alexandria, where so many thousands of good American dollars change hands, are momentarily expected. Similar measures were adopted during the epidemic of 1883, for the carpet bazaars are most active agents in the spread of the malady, not so much by reason of the vast crowds which assemble there, but owing to the fact that nearly all the finest rugs and prayer-carpets on sale have previously been used to wrap up the corpses of wealthy Persians, Turks and Indians, whose remains had been conveyed to the sacred cities of Medina and Mecca for burial. The rugs, after the final interment of the bodies, become the perquisites of the attendants trusted with the conveyance of the corpse to the holy cities, and they lose no time in selling them at the best possible prices to dealers, through whose hands they finally reach the bazaar. It is well, therefore, to bear in mind the fact that the more valuable and the more beautiful the Eastern rug or prayer-carpet may be, the more certain it is to have constituted the shroud of some Turkish or Persian corpse during its trip across the scorching Arabian deserts to Mecca.

NEW ENGLAND.

— The death-rate of Boston is now computed on a population of 446,000, instead of 418,000, as heretofore, the figures of the present census being substituted for an estimate.

— The Rhode Island Medical Society held its quarterly meeting in Providence, September 11th. President John W. Mitchell, M.D., was in the chair; Dr. J. Frederick Holler read the paper of the day on physical deterioration in the people of our age and some remedial suggestions.

NEW YORK.

— On September 9th Coroner Levy held an inquest in the case of the typhoid fever patient at Bellevue Hospital, who recently died of an overdose of carbolic

acid administered by Lemuel N. Jaynes, an under nurse. The drift of the inquiry hinged on the entry made in the ward book by the physician in charge, and the discrepancies between it and labels on a bottle from which the nurse should have taken a dose of glycerine and carbolic acid, and on a bottle of undiluted carbolic acid. From the latter Jaynes gave a fatal dose, as previously reported. The jury found that Jaynes was negligent, but also that the fatal result was partly attributable to the authorities of Bellevue Hospital, who had neglected to properly label the mixture prescribed, and allowed medicines to be mixed with violent poisons. Moreover, that medicines and poisons were in the custody of inexperienced nurse pupils; in this case, of one below the average intelligence, Jaynes having admitted, during his examination, that he gave *only* half a drachm of the pure carbolic acid, instead of a drachm, because he "thought it too strong a dose." In consequence of the verdict rendered, Jaynes was committed to the Tombs Prison, in default of \$2,500 bail, to await the action of the Grand Jury.

— Signor Jean Succi, the Italian fastner and African explorer, has arrived in New York, and intends giving here another public exhibition of fasting. His last exhibition was at the Royal Aquarium in London, where he fasted for forty days and two and a half hours. Here he will endeavor to beat his own record and all other records in fasting, as he will make the attempt to live without food for forty-five days. He alleges that after his fasts he has always had strength enough left to ride on horseback, to swim, or to fence.

— The American Dermatological Association met during the first week in September at Richfield Springs; holding two meetings a day, and visiting Otsego Lake, the observatory, and other points of interest. At their last session they invited Dr. Ranson, the consulting physician at the bath-house, to read a paper on the use of mineral waters in diseases of the skin, and passed some complimentary resolutions in regard to the Richfield springs and baths which concluded as follows: "The medical profession in America may congratulate itself upon now having at home, under the control of so competent a proprietor, baths which are not surpassed in adaptation to their purposes by any in Europe."

— Under the system heretofore in vogue, large numbers of the insane who are without means have been deprived of the benefits of the care and treatment to which they are entitled because of the private pay patients who have been received into the State asylums. The State Commission in Lunacy in carrying out the provisions of the law establishing State care for the indigent insane, has ordered that after the first of October no distinction shall be made between private and public patients, and that after this date no private patient is to be admitted to a State hospital except upon this condition.

Miscellany.

THE USE OF SKIN FROM PUPPIES IN SKIN-GRAFTING.

DR. M. E. VAN METER records, in the *Annals of Surgery* for August, 1890, what he believes to be an original use of puppy-grafts for the production of skin, as follows:

"A boy, fourteen years old, having in April last sustained severe and extensive burns, under treatment had accomplished the healing of them all, except certain granulating regions beneath the chin and lower jaw, and the right arm from elbow to fingers. Upon these surfaces skin-grafts were finally placed. For the neck, grafts were obtained from the arms of the father and brother of the patient; but for the arm, grafts were taken from two young puppies of the Mexican hairless breed, whose soft, white, hairless skin seemed to offer itself for the purpose with good prospect of successful results. The result was all that could be desired. The puppy-grafts proved to be superior to the human grafts; a greater proportion of them 'took,' and their subsequent rate of growth was much faster."

In this connection the editor refers to a similar case, in the *Lancet*, March 15, 1890, by Mr. Alexander Milro, of Edinburgh. The case is as follows:

"A boy, ten years old, presented an extensive ulcer on the left leg, resulting from a burn. The entire surface was covered with healthy granulations, but there was not the slightest attempt at cicatrization. It being impracticable to obtain sufficient human skin to cover the ulcers, a young black and white greyhound, seven days old, was killed with chloroform, and the whole of his anterior abdominal wall and flanks having been shaved, the flap of the skin thus marked out was dissected up, taking the entire thickness, leaving the subcutaneous fat. The skin was cut into strips, measuring six inches long by half an inch broad, which were firmly pressed into the previously cleaned ulcer in the long axis of the limb. Smaller grafts, about an inch square, were used to fill in spaces left between the larger ones. A considerable area over the inner side of the knee still remained bare: to cover it, the skin from the pup's tail was dissected up, unshaven. Over these grafts an antiseptic dressing was applied.

"On the first dressing, three days later, all the grafts but one small one had adhered. Some of the long strips sloughed later, but the smaller ones all did well. It was observed that the graft taken from the tail, which was not shaved, behaved exactly as the sponge does by promoting granulation. The hairs around the margins seemed to stimulate the granulations which grew on to the surface of the graft, and then spreading, completely swamped it. A few small grafts of human skin from a small boy were scattered here and there, two weeks later, to fill up gaps still left, and all did well. One or two spots still remaining a couple of days later, were covered with pieces of the skin of an old frog, but these failed to unite.

"Cicatrization was complete in six weeks after the first application of grafts. Seven months later there was absolutely no cicatrical contraction except where the tail skin was planted, and there it was very slight. The color of the skin was uniform, and very similar to that of the normal skin. There was no evidence of any development of hair or of cutaneous secretions.

The ordinary sensation was as good as in the other leg, and the temperature of both was the same."

The author believes the favorable outcome of the case to be mainly due to the age of the animal selected to furnish the grafts. In the first few days of extrauterine life the creature grows very rapidly, and, by grafting a large area of young tissue with a potentially great developmental power, the ulcerated area is quickly covered in, and the contraction prevented which invariably results after extensive burns when they are allowed to heal without artificial aid.

A TWO-HUNDRED-THOUSAND-DOLLAR LIBEL SUIT.

SUIT has been entered by William Radam, manufacturer of Radam's Microbe Killer, against the *Drugists Circular*, of New York, for \$200,000 damages, the largest amount, so far as heard from, that was ever asked for in a libel suit of this kind.

The pleadings show that the action is brought to recover damages claimed to have been done the business of the plaintiff by an article published in the *Drugists Circular* for September, 1889. This article gave the result of an analysis of the Microbe Killer made by Dr. R. G. Eccles, a prominent chemist of Brooklyn, who stated that an identical preparation could be made by the following formula:

Oil of vitriol (impure)	4 drachms.
Muriatic acid (impure)	"
Red wine, about	1 ounce.
Well or spring water	1 gallon.

This mixture, it was alleged, could be made at a cost of less than five cents per gallon, for which Radam charged three dollars.

It was further alleged that while, when properly used, sulphuric acid, the principal constituent of the Microbe Killer, was a valuable medicine, it was, when taken without due caution or advice, a slow but certain cumulative poison; and the theories advanced by Radam, as to the causes of diseases and the proper method of treatment, were alleged to be totally erroneous. Col. Robert G. Ingersoll, the famous lecturer, is the counsel for the plaintiff.

The *Drugists Circular*, which is published at 72 William Street, New York, expresses a desire to hear of any case in which unfavorable results have followed the administration of the Microbe Killer, or of any other fact that would be interesting under the circumstances. They claim to have published this analysis without malice, and with the sole intention of protecting the public from the loss of their health and money by the use of a dangerous nostrum.

CLINICAL STUDY OF RARITIES OR OF COMMON DISEASES.

THE approaching beginning of medical school sessions gives especial pertinence to the question of how far students shall follow the rare cases and startling operations of their clinics, and how far they shall study the more common-place diseases which will make the bulk of their future work, and on which their success or failure will after all depend. Our contemporary, the *Medical Press*, thinks too much time is spent on medical curiosities. A sound knowledge of principles, it says, will enable men to dispense

with any deep acquaintance with myxoedemas or acromyalies.

It adds: "Most of the experiments of pathology, and of what may be called the *caviles* of our calling, constitute but a handicap to the general practitioner. The same statement may be applied to much of the lumber of *materia medica* with which the newly-qualified man is loaded. Twenty or thirty drugs will carry him safely along, while the rest of the legion are dismissed from his memory, to be recalled, perhaps by the perusal of hospital reports, or by a consultant's prescription. It is of far more importance for him to know how to make his physic pleasant, than to be able to jot down half a dozen out-of-the-way and costly preparations. And so with the curiosities. He will be repaid by a study of homely diseases, such as rheumatism, syphilis, and the exanthems, in preference to the minutiae of late discoveries demanded of book-worms by high standard examinations. At the same time, it may be fully granted that the curiosities have a very high place in the advancement of scientific knowledge. Our contention is, that they are too much in evidence in the wards of our hospitals, in the class-rooms, and in the medical journals. No man of average acquirements, if he take an interest in his profession, would allow the rarer diseases altogether to escape his attention. During the curriculum there is quite enough straightforward grounding to be done in the outlines of ordinary disease and treatment. Another year of study has been declared a necessity, and it is a matter of moment to decide how that additional twelve months is to be spent. The opinion has been expressed emphatically enough in certain quarters, that it should be devoted to practical work. From this standpoint an infusion of well-educated general practitioners into the teaching ranks would not be without its advantages.

"In actual practice the surgeon cuts unconcernedly through whole mazes of minute named branches of nerves and arteries, while the physician looks carefully after his patient's surroundings, ignoring the hosts of remedies that are busily puffed on every hand. The student may well stand aghast as he glances through the pages of a modern reference book on *materia medica*. But he may take heart of grace, and rest assured that after he has learnt enough to satisfy his examiners, his acquaintance with most of the drugs will cease. The teachers and investigators of the subject, no doubt, do great and important service by their work. Now and then a discovery is made that takes the medical world by storm, and the virtues of some new substance are established. For each one that stands its trial, however, there are probably scores that sink into oblivion. Curiosities, however, are more closely connected with the road to fame; a fact which, to a great extent, accounts for their extreme prominence in the medical world."

THE RESPONSIBILITY OF THE PHYSICIAN FOR EXPERIMENTS UPON PATIENTS, EVEN WITH THE LATTER'S CONSENT.

A CASE was recently tried in a Cincinnati court, says the *Medical Record*, in which the conditions were rather peculiar, and in which the finding of the judge was of interest to others than the one directly concerned in the matter. It seems that a physician of that city was sued by a man who claimed to have been

injured by experiments with the Elixir of Youth. The man had been paralyzed for some time, and could get about only with much difficulty. The physician called him in as he was hobbling past his office, and proposed to try the effect of the "elixir" on his paralysis. The old man consented, and a charge of that stuff was injected into each leg. The result was that an abscess formed on his paralyzed leg, from which he suffered greatly.

The patient did not apply to the doctor for treatment, and the doctor made no charge for what he did. It was an experiment, attended with danger, which the doctor was eager to make, and the patient, with perhaps a limited understanding of the matter, seemed willing it should be tried.

It was contended by the defence that the case was not one of malpractice, nor could it quite be called an assault, and it fell short of the definition of a tort. Although the sufferings of the patient might be directly traceable to the doctor's act, yet it was a question whether the doctor did anything of which the law could take cognizance.

The jury, however, brought in a verdict against the defendant, assessing the damages at seventy-five dollars. The judge charged the jury that it is not malpractice where a physician treats a patient upon his own motion and without pay, but the physician is bound to use ordinary skill even under such circumstances, and if he does not use such skill, or in guilty of carelessness, he is guilty of a tort for which he is liable in damages.

Our contemporary expresses sympathy for the physician who was obliged to pay damages, yet holds that the decision was a just one. It will serve, at any rate, as a useful warning to others not to experiment carelessly with any medical fad that may be proposed, before they know anything about its merits or its dangers.

TWO MEDICO-LEGAL DECISIONS.

In the Brooklyn *Medical Journal*, September, 1890, is the report of a case of interest to doctors, taken from the last volume of "Decisions of the Court of Appeals of New York." The action was brought by a man named Alberti, against the Erie Railroad.

Alberti was a passenger, in July, 1885, on an express train of the Erie Road, and was seated in one of the sleeping-cars. His train came into collision with a partially-displaced door of a passing freight-car, which broke the windows and the partition between them, at which Alberti was sitting. He was struck by the broken pieces of glass and woodwork, and so injured that the muscles of his legs contracted, drawing them up against his body and rendering him helpless. Two points interesting to physicians occurred in the case.

It seems that Alberti lived in a village in Orange County in this State. He was treated by the physician of the little place, who also called in other practitioners of adjoining villages. The first doctor had never had such a case. The others had had a little experience in such cases, but were by no means specialists as to the trouble. It was some time before a specialist from New York city was sent for, at the suggestion of the village doctors, then at their wits' ends. The defence called a number of leading physicians, and proved that if such treatment as they would have pre-

sented had been given earlier, the injury would not have been so serious. The company then claimed that it was the duty of the injured man to have secured such proper attendance. The court divided on the question whether Alberti could prove that he was a poor man, in order that the jury might infer that he had not the means to send for a city doctor skilled in his trouble. Four judges voted that he was entitled to give such proof, on the ground that it was proper to show that he had not been negligent; that is, that he had done the best his means allowed, against the chief justice and another who voted the other way, Judge Brown, of Orange, well known here, not voting.

It was also objected by the lawyer for the railroad company, that the doctor who had first treated the injured man could not be allowed to disclose any information which he acquired in attending his patient. Upon this objection being made, the plaintiff's lawyer said that he waived the benefit of that rule of law. The objection was then overruled. The railroad company, on appeal, claimed that the lawyer of a party could not make such a waiver; that it was so personal a matter that no one could speak for him; that he could only act through his own speech or hand. The court held without dissent that the attorney of a client suing in his own behalf could make such a waiver in the course of a trial, the court intimating, however, that in the case of a suit by the representative of a deceased party, the power to make the waiver would have died with the deceased.

A CASE OF HYDATID TUMOR OF THE BRAIN —REMOVAL —RECOVERY.

DRS. JAMES GRAHAM, and C. P. B. Clubbe, of Sydney, Australia, report in the *Australasian Medical Gazette*, July 15, 1890, the first successful case of operation for cerebral hydatid in that colony. We condense the history.

C. G., aged sixteen years, a male, was a strong, healthy child, bright and active, and had been, up to present, free from any form of serious illness, except when at the age of ten years, he fell over a rock, a distance of twelve feet. He then lay unconscious for two days with his head drawn towards the right side. A few days afterwards he recovered, apparently without any bad effects from his fall, and has enjoyed good health up to the time of his present illness, which he dates from Christmas last.

His employer states that the boy was an intelligent and reliable servant, but that for several weeks before he was laid up he noticed that his memory was getting bad, and that he seemed dull and depressed.

The patient first complained of severe frontal headache after waking from a good night's rest, and on getting up felt giddy and sick. Everything seemed misty before him, and he noticed shortly afterwards, during the same day, that he was quite blind in his left eye.

An attack of headache and vomiting confined him bed for four days, and on getting up he said he felt much better only his sight was very dim, and he found he could not lift his legs as easily as he had been used to do. For about two weeks afterwards his sight seemed to improve, but the weakness in his legs increased. He noticed also that he could hardly use a knife with his right hand.

On admission the patient could give an intelligent history of his own health. He was well nourished and robust. His eyes were prominent, the pupils widely dilated, and reacted very feebly to light. He had a faint perception of light in the right eye, but the left was totally blind.

Hearing, taste and smell were normal. He walked like one steady a weight on his head, and leaned slightly towards the right side. He dragged the right leg slightly, and he had greater power of grasp with his left than with his right hand.

Superficial and deep reflexes were not altered, neither were sensation and muscular sense.

Ophthalmoscopic examination showed no paralysis of external ocular muscles. Both discs were in a condition of post-neuritic atrophy. The veins were large, the arteries considerably contracted, pointing to contraction of the exudation in the nerves. There had been more widespread exudation in the left eye than in the right. In the right eye it was confined to the disc and its immediate vicinity; in the left it was extended for some distance, obscuring the vessels in places.

For some weeks he seemed to improve under large doses of bromide and iodide of potash.

On the 17th of March the nurse reported that he had had a fit in the night, during which he moaned and struggled a good deal.

On the following morning he had complete loss of power in the right arm and in both legs; he had also an attack of headache and vomiting. The left eyelid slightly drooped, and the face was drawn a little to the left side. He lay in a drowsy condition for some days, and when questions were put to him, could only reply in monosyllables after some interval.

In the course of a week after this attack he regained power and movement, but in walking the dragging of the right leg was very marked, and the strength in the right arm was very feeble.

Perception of light was quite absent in both eyes, and the pupils no longer reacted to light. His mental condition had become much more obtuse, and mind and memory were practically a blank.

As it was evident that the pressure mainly involved the left motor area of the brain, and that the symptoms of a tumor in this region had become much more pronounced, Dr. Graham determined to submit the patient to operation without delay.

Mr. Clubbe conducted the surgical treatment of the case. After taking the usual precautions to render the scalp aseptic he trephined over the spot corresponding to the upper portion of the fissure of Rolando. In ascertaining the depth of bone which the instrument had reached, the quill suddenly passed through the dura mater, and its withdrawal was followed by pulsating jets of clear fluid. On removing the button of bone, which was thinned to about one-sixth of an inch, the exposed portion of the dura mater was found thickened, and on opening it a quantity of clear fluid escaped. A light reflected through the opening made, showed a collapsed hydatid cyst lying at the bottom of a large cavity. This was easily seized with a pair of forceps, and removed by gentle traction. The portion of the brain exposed showed that the pia mater was intact; from the presence of the cyst the brain substance corresponding to the motor area was bevelled into a cup-shaped cavity. It was evident that the hydatid had grown from the arachnoid membrane. The brain, while exposed to view, made no attempt to

expand. The cyst measured four inches in diameter, with a fluid capacity of nineteen ounces. The fluid gave the ordinary reaction of hydatid fluid. There was no scolices or daughter cysts. The interior of the hydatid wall was sacculated at different points. There was no evidence of an ecto-cyst in the seat of growth. The cavity was gently irrigated with a solution of perchloride of mercury, 1 in 10,000, and the dura mater stitched, except at one spot where a drainage-tube was inserted. A corresponding opening for the tube was made in the scalp, and the edges of the semi-lunar flap brought together. The dressing was serum gauze and antiseptic absorbent wool.

There was large discharge from the wound; the tube was removed the third day and though there were some alarming symptoms, after the fourteenth day he made steady improvement. He gradually but completely regained power in his right arm and leg. At the end of six weeks he was allowed to get out of bed and to begin walking in easy and short stages. In a day or two the habit of walking by himself became quite easy, and eight weeks from the operation he was quite smart and active on his legs.

There is also a marked improvement in his mental condition, his memory, which seemed to have become obliterated from the time of the operation, has now returned and he can recall facts and dates connected with his illness; as the patient puts it, "he feels all right, and is only waiting for his sight to come back."

The protrusion of the eyes, which was so well marked before the operation, has nearly all disappeared. The pupils are normal in size and readily react to light. He says, when asked if he can see, that daylight appears to him like a red light, but that at night everything is black. No positive evidence of returning vision has been manifested, and the structural changes in the fundi remain unaltered.

Correspondence.

THE BERLIN INTERNATIONAL MEDICAL CONGRESS.

SECTION OF OBSTETRICS AND GYNECOLOGY.

ANTISEPSIS IN MIDWIFERY. — VAGINAL EXTRIPATION OF THE UTERUS. — ARTIFICIAL PREMATURE DELIVERY. — ELECTROLYSIS OF MYOMATA.

BERLIN, August, 1890.

MR. EDITOR: — In describing the work of the Section for Obstetrics and Gynecology of the Tenth International Medical Congress, it will be best to confine myself to a general summing up and consideration of the papers read and of the practice suggested there, as it would require too much of your valuable space if I attempted even the briefest sketch of every one of the 118 papers which were read in the thirteen meetings of the Section, besides the four discussions of subjects which were held as appointed in the programme.

In general, it may be said that too many papers were read; because, in order to complete the list as determined upon beforehand for each session, it was necessary to confine the discussion of each paper within the narrowest limits. This was done both by a rule limiting the discussion of any paper to three participants, each of whom could speak not more than five minutes; and even more effectively by the feeling on the part of all present, that any considerable time spent in discussion would prevent some member from reading the paper which he had prepared. As a consequence, all of the 118 papers were read, or as

much of each as could be delivered in precisely ten minutes; and those members who could thoroughly understand all the three languages (German, English and French), and who virtuously attended all the sessions, had the satisfaction of anticipating the publication of the transactions by several months. On the other hand, the brief remarks of the fifty-one members who spoke in discussion might well have been expanded, and many more of the distinguished gentlemen present might well have spoken, to the great satisfaction and instruction of their fellow-members.

The names of the gentlemen who were inscribed at the meetings of the Section, as being present, reached the number of 450; but, of these, a large number being manifestly ignorant of any language but their own, were wandering about, to the disturbance of those who were conscientiously listening to the proceedings.

It is evident, that, if the participation in international meetings goes on increasing, it will be necessary to limit in some way the number of papers actually read, and to require some qualifications as to membership more than regular standing in the profession and the payment of a small fee.

With these preliminary remarks, which are in no way intended as a reflection on the very conscientious and energetic organizers and officers of the Section, who displayed the greatest affability, tact, discretion and endurance, I will proceed to consider the main features of the proceedings.

The four subjects previously selected for discussion were (1) Antiseptis in Midwifery, (2) Vaginal Extripation of the Uterus, (3) Artificial Premature Delivery, (4) Electrolysis of Myomata.

The first of these questions was evidently one of the greatest interest, not only to all practitioners of medicine, but to humanity as a whole, and to the authorities of all States and cities, who are entrusted with the support and management of the public charities.

The discussion was chiefly valuable as showing how widely the introduction of thorough ANTISEPSIS IN MIDWIFERY has spread, and how it has everywhere been followed by the same beneficial reduction of puerperal mortality and morbidity, and by a distinct improvement in the health of the women of all nations.

From Russia to America, and from Sweden to Italy, the representatives told the same story of the cessation of epidemics of puerperal fever which often used to carry the mortality to fifteen or eighteen per cent., of the puerperal women, so that now, one-half per cent. to one and one-half per cent., is all that is expected, and in hospitals, these represent not cases developed in the institutions, but those brought in already infected. A considerable part of the discussion related to the measures to be introduced and enforced among midwives.

As for the procedure to be employed in hospitals and in general practice, as far as may be required, it may be said that nothing new has been discovered since the general introduction of the use of solutions of bichloride of mercury, which can efficiently replace the latter. The whole principle, which is sufficiently familiar to your readers, being to make the vagina and external parts of the mother thoroughly clean and aseptic at the commencement of labor, preferably by the use of a sublimate solution, to have the hands and clothes of the accoucheur and nurse and all the surroundings of the patient perfectly clean and aseptic; and then the woman not being infected locally, will have no puerperal fever. Vaginal injections after delivery are, therefore, unnecessary, except in cases where, owing to the want of the above precautions or want of thoroughness in carrying them out, either a considerable fever has supervened or the lochia have become offensive.

This is substantially what I wrote to the JOURNAL in 1885, as the treatment then introduced into the hospitals in Berlin.

The only new fact emphasized at this Congress, was that in most cases it is entirely unnecessary to make any digital examination whatever, for the position of the child can be quite sufficiently determined by palpation of the abdomen, and if everything is normal there is no use in complicating

matters by digital examination. This is only a logical deduction from the principle once so pithily described by Credé. "He who has not examined a woman has not infected her."

Another fact of importance elicited by the discussion was that great lying-in hospitals, if properly managed, give an almost ideal safety, both for mother and child, and are in many respects preferable to small institutions where the patients are under the care of local midwives, such as were established, before aseptic times, in order to avert the danger of puerperal fever.

The only problem which now remains is to secure for women who are delivered at home any approximation to the security which they enjoy in well regulated institutions.

The principal participants in the discussion were Professors Slaviansky, of St. Petersburg; Priestly, of London; Stadfeldt, of Copenhagen; and Fritschl, of Breslau.

The second discussion on VAGINAL EXTRIPATION OF THE UTERUS, showed that since the last Congress in 1887, this operation has been widely adopted, and that the indications for its performance are now definitely understood, and accepted with substantial unanimity.

The principal speakers were Drs. Williams of London, Schauta of Prague, Péan and Pozzi of Paris, Olshausen, Landau and Martin of Berlin, Sajatsky of Moscow, Kaltenbach of Giessen, and Czerny of Heidelberg.

It seemed to be the opinion of all that

(1) Total vaginal extirpation of the uterus should always be performed as soon as cancer of any part of that organ is discovered, provided the disease has not advanced too far to permit of the removal of all diseased tissue and the state of the patient warrants the operation.

(2) That therefore, high amputation of the cervix for cancer should be abandoned.

(3) That vaginal extirpation of the uterus is a comparatively safe operation (for instance, Kaltenbach reported eighty cases with two deaths), Sajatsky stated that in Russia the operation has been found almost devoid of danger).

(4) That with all possible thoroughness of operation a very large number of relapses occur, fifty per cent. or more (Olshausen, Kaltenbach).

Differences as to the manner of operation were unessential. Most of the German surgeons use catgut ligatures, most of the French use clamps, each according to his taste and custom.

Olshausen, in his last twelve operations, after disinfecting the stumps of the broad ligaments and cutting the catgut ligatures short, returns the stumps into the abdominal cavity and closes the latter by uniting the opening in the vagina transversely with sutures.

Schauta recommended vaginal extirpation of the uterus for some cases of myoma, and of prolapse, and for recurrent glandular endometritis, which is apt to become malignant.

Martin would also operate in this manner for cases of inveterate metrorrhagia which cannot be cured otherwise.

The third subject for discussion was introduced by a scholarly paper by Professor Parvin of Philadelphia, in which was a careful *résumé* of the literature and statistics of the INDUCTION OF PREMATURE LABOR.

The indications which he set forth for such a procedure were uncontrollable vomiting; renal diseases; cardiac affections; pulmonary diseases, especially capillary bronchitis, edema, and advanced phthisis; diseases of the nervous system, particularly eclampsia and meningitis; acute infectious diseases; lastly, but most frequently, deformity of the pelvis. Out of 988 cases of induction of premature labor which the reader had collected, 870 were on account of deformity of the pelvis.

Quite an animated discussion followed, the chief point being the determination of the best method of inducing premature labor, and the limit of pelvic narrowness, at which this procedure should give place to Cesarean section in the interest of a viable child. It seemed to be agreed that the induction of labor, either by introduction into the uterus, of a pliable bougie (not a hollow catheter) and the use of hot douches, or by dilatation of the cervix by laminaria and

india-rubber bags is a reasonably safe procedure for the mother if performed aseptically. Calderine of Parma, reported, for instance, 305 cases with a maternal mortality of four and six-tenths per cent.; Fehling of Basel, sixty cases with no death of the mother, and eighty per cent. of living children; Leopold of Dresden, seventy-five cases with one death of the mother. On the other hand, out of forty-two cases of Cesarean section Leopold lost four, so that he was not inclined to recommend its introduction into general practice in cases where induction of premature labor could be performed with safety for the mother.

As for the chances of saving the child alive by this procedure, it seemed to be agreed that the smallest conjugate pelvic diameter through which a viable child can pass is seven and a half centimetres, while as a rule the conjugate diameter must be eight to nine and a half centimetres (three and one-fifth to three and two-fifths inches).

The question of the choice between Cesarean section and the induction of premature labor, where the pelvis is so narrow that the child must be sacrificed, was not fully discussed, but it seemed to be assumed that the former operation was limited to cases where the consent of the mother, the attendance of an experienced operator, and the advantages of a well-regulated hospital were added to the other indications, so that for general practice the induction of premature labor is to be considered as the operation of election.

The fourth and last subject appointed for discussion was ELECTROLYSIS IN GYNECOLOGY.

It is fair to observe that the presentation of the subject was somewhat one-sided, as all those gentlemen who were appointed to participate in it, namely: Drs. Apostoli, Keith, Cutler and Zweifel were known to be in favor of the use of electrolysis, while none of the German surgeons who strongly disapprove of this method of treatment, cared to express their views, as they did not wish to appear to be even scientifically inhospitable to their French guests, and as the modern use of electrolysis in gynecology is essentially a French specialty.

The subject was well-represented by Dr. Apostoli whose views on the treatment of myoma by electricity are, I presume, well-known to your readers. He also insisted on the value of this agent in other uterine affections, especially as a substitute for the curette in endometritis, and in amenorrhea, dysmenorrhea and menorrhagia; also in promoting the absorption of peri-uterine exudations. He warned, however, against the use of electricity in strong currents in cases of purulent salpingitis. In the last eight years Apostoli has made 11,499 applications of galvanic electricity on 912 patients, comprising 531 myomata, 133 cases of simple endometritis, and 248 cases of endometritis complicated with peri-uterine phlegmasia.

He reports three deaths resulting from operative faults in his applications; two cases of galvano-puncture of which one was for a sub-peritoneal fibroma, and one for an ovario-salpingitis. The third death was from galvano-puncture of an ovarian cyst mistaken for a fibroma. He has observed thirty cases of pregnancy among the women whom he has treated with galvanism.

Dr. Keith not being present, Dr. Ephraim Cutler gave a history of the early use of galvano-puncture in America for myomata, reported fifty cases, in eleven of which the tumor was said to have disappeared, while in four cases death ensued as a result of the treatment. Unfortunately, no one else present could report the complete disappearance of a myoma under electrolysis.

Professor Zweifel, of Leipzig, after a description of Apostoli's method, gave the results of his experience, stating that there could be no doubt that the treatment gave severe pain to the patients, although they learned to endure it. Electro-puncture he considered dangerous; the treatment was to be considered as symptomatic and not as radical, and under it there was no doubt that there is frequently a cessation of growth of the tumor, which is not always permanent, as sometimes the tumor begins to grow again later, while on the other hand, the tumor may become smaller, and this diminution may go on to a consid-

erable extent, not, however, to complete disappearance. The patients usually feel much better in regard to their pains and sufferings.

A large number of members related their experiences with electrolysis, mostly in a favorable sense; there was not wanting, however, a strong undercurrent of doubt, denial and ridicule, which although it found no open expression was freely indicated by various distinguished members in private conversation. If Philadelphia had been more fully represented at the Congress, the discussion of this subject would have been less one-sided.

As for the action of the constant electrical current there was nothing new advanced, so far as concerns the treatment of myomata, or fibroid tumors.

Dr. Goubaroff, of Moscow, claimed to have obtained good results in uterine cancer, from the use of galvanism, to control hemorrhage and pain; he astonished all present by recommending the use of a current of 1,000 milliamperes, under chloroform.

The speakers did not adequately discuss the question of the use of the galvanic current in chronic "parametritis," which was perhaps fortunate, inasmuch as a clear comprehension of the pathology of pelvic inflammations, did not seem to be very general, and while some found that exudates disappeared rapidly under the use of electrolysis and massage, no less an authority than Apostoli himself warned against the danger of the galvanic current in "suppurative phlegmasia of the appendages."

One thing was very evident, namely: that the use of galvanism in uterine and pelvic inflammations requires a diagnostic acumen and manipulative skill, and antiseptic thoroughness of a high degree, in order to avoid serious accidents. Just how much advantage is to be gained from its use under these conditions, is not settled as yet.

In another letter I will consider some of the papers which were read at this Section of the Congress.

Yours respectfully,
E. W. CUSHING, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 6, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	717	325	21.71	13.52	2.34	14.30	1.36
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,977	382	155	21.58	10.92	3.12	9.88	6.30
Brooklyn	652,467	378	205	26.92	10.26	1.89	19.71	.31
St. Louis	550,000	—	—	—	—	—	—	—
Baltimore	500,343	158	71	20.79	11.97	3.15	6.30	3.78
Boston	418,110	191	87	26.52	11.44	5.72	15.08	3.64
Cincinnati	325,000	94	59	15.90	9.54	7.42	5.30	3.18
New Orleans	260,000	106	33	16.92	12.22	.94	3.76	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	100	46	22.00	14.00	7.00	13.00	8.00
Nashville	68,513	30	10	10.00	20.00	—	6.66	—
Gloucester	60,452	—	—	—	—	—	—	—
Portland	45,000	11	4	27.27	9.09	—	27.27	—
Worcester	31,622	22	18	45.45	6.36	6.26	28.17	6.26
Lowell	28,370	39	19	43.59	2.50	2.56	28.16	10.24
Cambridge	67,026	28	17	25.00	10.75	3.57	17.85	—
Fall River	64,062	24	14	29.12	12.50	4.16	25.00	—
Lynn	55,200	14	6	21.42	7.14	—	—	—
Springfield	41,520	13	6	38.45	15.38	7.69	30.76	—
Lawrence	41,058	19	5	21.04	10.52	—	10.52	5.26
New Bedford	38,218	17	9	35.28	11.76	—	35.28	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	—	—	—	—	—	—	—
Salem	29,292	17	10	23.53	—	—	5.88	—
Chelsea	28,181	8	3	12.50	26.00	—	12.50	—
Haverhill	27,124	6	4	16.66	—	—	16.66	—
Taunton	25,544	5	2	40.00	—	—	40.00	—
Gloucester	24,904	9	5	33.33	11.11	—	33.33	—
Newton	22,011	6	2	—	—	—	—	—
Malden	20,615	9	4	33.33	11.11	11.11	11.11	11.11
Waltham	17,998	9	6	55.55	—	—	44.44	11.11
Fitchburg	17,304	5	3	20.00	20.00	—	20.00	—
Attleborough	15,964	—	—	—	—	—	—	—
Pittsfield	15,762	10	—	—	10.00	—	—	—
Quincy	14,114	14	9	14.28	—	—	14.28	—
Newburyport	13,915	—	—	—	—	—	—	—
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 2,451; under five years of age 1,140; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 582; consumption 290, acute lung diseases 183, diarrhoeal diseases 346, typhoid fever 78, diphtheria and croup 76, whooping-cough 32, malarial fever 30, measles 8, scarlet fever 8, cerebro-spinal meningitis 4.

From whooping-cough, New York 11, Baltimore 6, Philadelphia 5, Brooklyn and Boston 3 each, Nashville, Cambridge, Lawrence and Salem 1 each. From malarial fever, New Orleans 13, Brooklyn 7, Baltimore 6, New York 4. From measles, New York 1, Brooklyn 1. From scarlet fever, Philadelphia 3, Brooklyn 2, New York 1, Boston 1, Washington 1. From cerebro-spinal meningitis, Lynn 2, New York 2, and Worcester 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,539, for the week ending August 23d, the death-rate was 21.0. Deaths reported 3,907: infants under one year 1,545, acute diseases of the respiratory organs

(London), 203, diarrhoea 705, measles 106, whooping-cough 72, scarlet fever 56, diphtheria 36, fever 24.

The death-rates ranged from 13.0 in Bristol to 31.7 in Preston, Birmingham 24.6, Bolton 24.8, Brighton 21.9, Hull 22.7, Leeds 20.4, Leicester 17.9, Liverpool 23.2, London 19.2, Manchester 26.8, Nottingham 15.5, Sheffield 27.6, Sunderland 23.4.

In Edinburgh 16.2, Glasgow 20.9, Dublin 20.5.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,539, for the week ending August 30th, the death-rate was 20.7. Deaths reported 3,857: infants under one year 1,386, acute diseases of the respiratory organs (London), 184, diarrhoea 599, measles 100, whooping-cough 84, scarlet fever 56, fever 43, diphtheria 39.

The death-rates ranged from 11.2 in Bristol to 35.2 in Newcastle-on-Tyne, Birmingham 21.7, Bradford 18.6, Hall 20.7, Leeds 18.3, Leicester 20.9, Liverpool 23.5, London 19.6, Manchester 27.6, Nottingham 12.6, Sheffield 28.2, Sunderland 22.5.

In Edinburgh 12.3, Glasgow 18.4, Dublin 23.8.

The meteorological record for the week ending Sept. 6, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.		Thermometer.			Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration Hrs & Min.	Amount in Inches.	
Saturday, Sept. 6, 1890.															
Sunday... 31	29.91	63.0	71.0	55.0	66	71	68.0	W.	W.	12	C.	G.			
Monday... 1	30.21	65.0	75.0	53.0	69	59	64.0	N.W.	W.	8	C.	C.			
Tuesday... 2	30.22	67.0	79.0	55.0	61	64	62.0	W.	W.	10	C.	C.			
Wednesday... 3	30.23	68.0	76.0	56.0	67	75	67.0	N.E.	E.	12	F.	G.			
Thursday... 4	30.23	62.0	74.0	50.0	52	50	57.0	S.E.	S.E.	3	O.	G.			
Friday... 5	30.10	72.0	84.0	61.0	90	87.0	87.0	S.W.	S.W.	16	C.	G.			
Saturday... 6	30.05	70.0	76.0	63.0	79	100	89.0	W.	E.	4	C.	F.	T.	1.51	
Mean for Week.	30.14		74.0	58.0			65.0								

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 4, 1890, TO SEPTEMBER 12, 1890.

By direction of the Acting Secretary of War, First Lieutenant NATHAN S. JARVIS, assistant surgeon, is relieved from duty at Fort Verde, Arizona Territory, and will report in person to the commanding officer, San Carlos, Arizona Territory, for duty at that station. S. O. 208, Par. 2, A. G. O., Washington, D. C., September 5, 1890.

Leave of absence for one month, on surgeon's certificate of disability, is granted Major A. A. WOODRULL, surgeon, with permission to go beyond the limits of the department. S. O. 122, Par. 1, Department of the Missouri, September 5, 1890.

Leave of absence for one month, to take effect on or about October 20, 1890, is hereby granted First Lieutenant LEONARD WOOD, assistant surgeon, with permission to apply for an extension of one month. S. O. 74, Par. 1, Department of California, San Francisco, Cal., August 30, 1890.

Leave of absence for one month is granted Captain EDWARD C. CARTER, assistant surgeon United States army. S. O. 108, Par. 2, Headquarters Department of the Columbia, September 6, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 13, 1890.

THORON WOOLVERTON, medical director, ordered to U. S. S. "Philadelphia," September 15th.

THOMAS N. PENROSE, medical inspector, detached from the U. S. S. "Richmond."

J. E. GARDNER, passed assistant surgeon, detached from the U. S. C. S. C. "Albatross."

N. H. DRAKE, passed assistant surgeon, detached from the U. S. C. S. S. "McArthur," and to the U. S. F. C. S. "Albatross."

T. A. BERRYHILL, passed assistant surgeon, detached from the Hospital Mare Island, Cal., and to the U. S. C. S. S. "McArthur."

A. C. HEFFINGER, passed assistant surgeon, ordered before retiring board, October 1, 1890.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM AUGUST 12, 1890, TO SEPTEMBER 6, 1890.

VANSANT, JOHN, surgeon. Granted leave of absence for thirty days, to take effect upon return of Assistant Surgeon J. C. Perry to duty. September 5, 1890.

WYMAN, WALTER, surgeon. To proceed to Cape Charles Quarantine Station on special duty. August 25, 1890.

STONE, GEORGE W., surgeon. Granted leave of absence for four days. August 19, 1890.

CARMICHAEL, D. A., passed assistant surgeon. Leave of absence extended fifteen days. August 26, 1890.

AMES, R. P. M., passed assistant surgeon. To proceed to Memphis, Tenn., on temporary duty.

DEVAN, S. C., passed assistant surgeon. Leave extended five days on account of sickness. August 12, 1890.

WILLIAMS, L. L., passed assistant surgeon. Granted leave of absence for thirty days. September 5, 1890.

GOODWIN, H. F., assistant surgeon. Granted leave of absence for thirty days. August 23, 1890.

CORB, J. O., assistant surgeon. To proceed to Marine-Hospital, Detroit, Mich., for duty. August 16, 1890.

HUSSEY, H. H., assistant surgeon. Granted leave of absence for thirty days. August 19, 1890.

PERRY, J. C., assistant surgeon. Granted leave of absence for twenty days, to take effect when relieved. September 3, 1890.

YOUNG, G. B., assistant surgeon. To rejoin his station at St. Louis, Mo., when relieved. September 3, 1890.

APPOINTMENT.

ROSENTHAL, MILTON J., assistant surgeon. Commissioned as an assistant surgeon by the President, August 25, 1890. Ordered to Chicago, Ill., for temporary duty August 27, 1890.

DEATH.

In Taunton, Mass., September 15, 1890, Joseph Murphy, M.D., M.M.S.S., aged seventy-two years.

BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Board of Health for the City of Lowell, for the year 1889.

Address in Hygiene. By Thomas J. Mays, M. D., of Philadelphia. Reprint. 1890.

The Use and Abuse of Peppermint. By Gustavus Eliot, A. M., D. New Haven, Conn. Reprint. 1890.

Boston University School of Medicine, Eighteenth Annual Announcement and Catalogue. August, 1890.

Massage, a Primer for Nurses. By Sarah E. Post, M.D. New York: The Nightingale Publishing Co. 1890.

The Johns Hopkins Hospital Reports, Report on Gynecology. I. By Howard A. Kelley, M.D. Baltimore: The Johns Hopkins Press. 1890.

Dust and Its Dangers. By T. Mitchell Prudden, M.D., Author of "A Manual of Practical Normal Histology, etc." New York: G. P. Putnam's Sons. 1890.

Spinal Surgery. A Report of Eight Cases. By Robert Abbé, M.D., Surgeon to St. Luke's Hospital, New York; Professor of Surgery, Post-Graduate School, etc. Reprint. 1890.

Suppression of the Antrum of Highmore. By Moreau R. Brown, M.D., Professor of Laryngology and Rhinology at the Chicago Polytechnic. Reprint. 1890.

Transactions of the Association of American Physicians, Fifth Session held at Washington, D. C., May 13-15, 1890. Volume V. Philadelphia: Printed for the Association. 1890.

An Explanation of the Phenomena of Immunity and Contagion, Based on the Action of Physical and Biological Laws. By J. W. McLaughlin, M.D., Austin, Tex. Reprint. 1890.

Drs. Bourneville and Bricon's Manual of Epidemic Medication. By G. Archie Stockwell, M.D., F.Z.S., Member of New Sydenham Society, London. Detroit: George S. Davis, 1890.

Original Articles.

SEIZURES CHARACTERIZED BY SHOCK AND SUDDEN COMA.¹

BY ISRAEL T. DANA, A.M., M.D., PORTLAND,
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SHOCK may be defined as a condition of sudden depression of the vital functions, especially the cardiac, respiratory and sensorial, by physical injury or strong mental emotion. **Coma** is a state of unconsciousness, of profound insensibility, from which it is impossible or difficult to arouse the patient. The elements, then, of the class of seizures defined in our title, are abruptness, violence, loss of consciousness, and depression of vital power. And these must be so developed and combined as to give character to the attack.

Syncope, with its characteristic feeblessness of heart-action and cerebral anemia, its constantly brief period of unconsciousness, its instantaneous and perfect recovery, its frequently trivial causation, and its trifling danger, is not usually reckoned a form of coma.

Coma, with more or less shock, is observed as an incident of many diseases, which it cannot be said to characterize. It may occur during the invasion, in the course of, or near the termination of a disease. In the last case it may be simply a manifestation of the final failure of vitality. It occurs in a great variety of diseased cerebral conditions, especially concussion and compression, anemia and hyperemia, extravasation of blood and serous effusion, inflammation, exhaustion, and sunstroke. It is found related to various convulsive affections, as epilepsy, hysteria, infantile reflex, puerperal and uremic convulsions. It is common in connection with fevers, both essential and symptomatic, continued and malarial, especially when hyperpyrexia is present. It is seen at the invasion of scarlatina and other eruptive fevers, often associated with convulsions in the case of children. Uremic coma is usually preceded by or accompanied with convulsions, and generally terminates fatally. Diabetic coma is sometimes met with, usually towards the end of the disease, and is often preceded by marked nervous phenomena. It usually progressively deepens to a fatal issue within two or three days. The breath is apt to take on a characteristic fruity odor, sometimes suggestive of chloroform or ether. It is doubtless due to the formation in the blood of a peculiar poison, believed by some to be acetone. Uremia may occur as a complication of diabetes, but does not account for the diabetic coma. Cholestatic coma is chiefly seen in the so-called "grave jaundice," and is believed to depend upon the accumulation in the blood of the excrementitious element cholesterine, a product of the disassimilation of nerve-tissue. Death, with or without convulsions, is the usual result. Anæmic coma is oftenest seen in pernicious anemia. In its clinical features it closely resembles diabetic coma. It is believed by some also to depend upon a condition of acetonæmia. Owing to deficiency of red corpuscles, the process of tissue-oxidation is imperfectly carried on, and the production of toxic substances is thereby rendered probable. Coma dyspepticum is a rare affection, believed to result from poisonous gases, acids, or ptomaines, formed in the gastra-intestinal tract.

The coma is usually preceded by dyspeptic pheno-

mena, muscular weakness, headaches, and joint-aches. The peculiar fruity odor of breath and urine, common in diabetic coma, is present. Gradual recovery often occurs, after from two to four days of unconsciousness. Closely related to this form of coma is that associated with the presence of septic, decomposing pus in natural or artificial cavities of the body.

Mention has been made of the presence of coma in a variety of diseased conditions, believed to result from the presence in the blood of poisons of autogenous origin. It may be sufficient now to simply suggest the frequent occurrence of coma, as the result of poisons introduced into the system from without, most notably alcohol, opium, chloral and cannabis indica.

The main object of this paper is to collate and compare, chiefly as to clinical history, the four typical forms of apoplectiform seizure, namely, the hemorrhagic, the embolic, the congestive, and the uremic.

I. THE HEMORRHAGIC FORM.

In the discussion of this variety of apoplectiform seizure, I shall not include the minute diagnosis of hemorrhage in the rarer, possible localities of the brain, but shall, for present purposes, assume it to be in its usual site, in and about the basal ganglia, involving the nucleus caudatus, the internal capsule, the nucleus lenticularis, the optic thalamus, and the immediately adjacent parts. A probable explanation is that these parts receive their blood-supply through large and directly penetrating branches of the anterior, middle and posterior cerebral arteries, with high intravascular tension. The walls of the small vessels are often the seat of atheroma and endarteritis deformans. Military aneurisms, of size from that of a millet-seed up to that of a pin-head, form and burst. The hemorrhage occurs in two forms, the capillary, with its separate fine red dots, and the focal, or clot form, the clot being sometimes no larger than a pea, and sometimes occupying the greater part of a hemisphere. The lateral ventricle is often opened into. The traumatic injury inflicted upon the brain-tissue; the anemia induced by clot-pressure; the clot-changer resulting finally in a mere pigmented cicatrix, with or without the intervention of a cyst; and the later secondary lesions of descending generation, involving the crossed, and, in less degree, the direct pyramidal columns of the cord, must not be forgotten.

In connection with the question of causation, let us keep in mind, that so constantly present double ultimate cause, degenerated vascular walls and intravascular pressure; the possibility of an existing hemorrhage diathesis; the age and sex most obnoxious to cerebral hemorrhage; the influence of alcohol, syphilis, gout and heredity; and the tendency of muscular and emotional strain.

The events of the clinical history of cerebral extravasation occur to the mind in a certain natural order of sequence. Thus, we have (1) the shock, (2) the period of unconsciousness, (3) the condition of the patient as he emerges from the coma, (4) the special liabilities of the first week, (5) the remaining over-symptoms, and the gradual, usually incomplete recovery, (6) the later phenomena of descending degeneration of the pyramidal columns, and (7) the special liabilities of the patient in subsequent life.

The popular term "shock of paralysis" is an entirely natural and appropriate one. The sudden depression

¹ Read at the Annual Meeting of the Association of American Physicians, Washington, May, 1890.

of the vital functions, which the word shock implies, is coincident with the vascular rupture, and the amount of shock must bear some proportion to the size of the artery ruptured and the amount of injury inflicted upon the brain-tissue. Sometimes the primary shock is comparatively slight. The patient may feel confused, or even fall, but quickly recovers himself in a measure, and is able to talk intelligently till advancing coma finally overcomes him. The elements of shock and coma are so related and combined in these cases, that it is impossible to draw a sharp line of separation. The apoplectic invasion is sometimes absolutely abrupt. A man feeling at his best, engaged in brilliant conversation, or dexterously performing some delicate operation, may fall to the floor unconscious, about as suddenly as if he had received a heavy blow upon the outside of his head. In another case the coma may be gradual and progressive development, an hour being occupied in the process.

In such a case the blood escapes slowly from the vessel, or there may be several successive bleedings of only moderate amount. The coma is largely due to the suddenness of the pressure exercised by the extravasated blood. It may, therefore, be more profound and protracted in proportion as the effusion of blood is larger and more rapid. Sometimes the seizure is preceded for days, or hours, by disordered sensations of the head, such as headache, dizziness, a sense of fulness, or flushing of the face. Occasionally an attack occurs during sleep, and the patient is found unconscious and hemiplegic.

The face is usually red or livid, but exceptionally it is pallid. The breathing is generally slow and stertorous, and its rhythm is broken and irregular. If the coma be profound the lips and cheeks are flaccid, and the latter are puffed out in expiration. The condition of the pupils varies. Most often, perhaps, they are dilated, but they may be contracted, or of natural size. Some disparity between them is not unusual. The face is often twisted, the angle of the mouth being drawn toward the non-paralyzed side. The pulse is not constant in character, but is often full and hard. Vomiting is common at or soon after the seizure. The body heat, which is often reduced one to two degrees at first, usually reaches several degrees of elevation within twenty-four hours. Even in the stage of coma the existence of hemiplegia can frequently be recognized. Slight unconscious movements of the limbs, on one side, occasionally occur, while those of the opposite side are absolutely motionless. The muscles of the paralyzed side are usually limp and flaccid, but are rarely in a state of tonic rigidity, the latter condition being specially related to the bursting of effused blood into the lateral ventricle. Convulsive movements are rare unless the motor cortical region is involved. Conjugate deviation of the head and eyes towards the side of the hemisphere involved, is occasionally present, especially when the severer lesions exist.

The coma is usually recovered from within a few hours. Exceptionally death occurs, in from a few hours to a day or two, the coma persisting to the end. In these cases the cardiac and respiratory centres of the medulla are presumably involved in the hemorrhage. As a rule, if no improvement in the coma occur within eight or ten hours, it grows more profound up to a fatal issue. Death occurs by apnoea, or by blunted apnoea and asthenia.

The mental condition of the patient emerging from the stage of coma is dull and apathetic. He asks no questions. He expresses no surprise. He seems to be utterly devoid of recollection or conception pertaining to the experience he has just passed through. In this respect the condition is in marked contrast with that of one emerging from the influence of ether.

The special liability of the first week is to the occurrence of inflammation of the brain-tissue around the clot. The cerebritis manifests itself by fever, headache, delirium and spasmodic contractions of the paralyzed muscles. In the worst cases convulsions may occur, and death by coma, but in the great majority of cases, the inflammation subsides in the course of a few days.

With the full recovery of consciousness comes the opportunity to the physician to take competent note of the remaining-over symptoms, and to "estimate the damages." The most common of the persistent symptoms of hemorrhagic apoplexy are hemiplegia, aphasia, and impairment of mental power. So far as these are permanent, they are the result of the primary traumatic injury inflicted upon the brain-tissue at the moment of extravasation, and which is finally represented by the apoplectic scar or cyst. These are the direct focal symptoms. Then there are indirect focal symptoms, resulting from temporary conditions, such as clot pressure, oedema, etc. These indirect symptoms disappear in the course of days, weeks, or a few months at farthest.

The *hemiplegia* is the most important and constant of the persistent symptoms. It is present in a large majority of the cases. The muscles ordinarily involved, are the muscles of the upper and lower extremities, and of the nose, cheek and mouth. The trapezius muscle is often paretic, inducing sagging of the shoulder. The respiratory muscles of one side may also be paretic, and marked disparity in the amount of respiratory play on the two sides may be noticed, especially in forced breathing. These paralyses are all on the side opposite that of the hemorrhage. The motor function is solely, or chiefly affected. That of sensation is usually little, if at all involved. There is great variety in the degrees of completeness of the paralysis. It ranges between absolute loss of motor power and mild paresis. The upper limb is, as a rule, much more seriously affected than the lower. There is wasting of muscle even in the early weeks. It is the direct result of the brain-lesion and is in some proportion to the degree of paralysis. It is an atrophy of disease. It is in marked contrast with the extreme wasting, with associated degeneration of tissue, of later occurrence. Reflex movements occur, especially in the lower limb, even when the motor paralysis is complete. The tendon-reflexes are exaggerated, while the skin reflexes are reduced. Electro-muscular contractility is maintained. So also is the direct mechanical excitability of the paralyzed muscles. The pulse is observed to be smaller on the affected side. The temperature is reduced. The natural color of the skin may be replaced with a purplish hue. Distention of the veins and oedema may be present. The nail-growth, as pointed out by Weir Mitchell, may become arrested. Temporary irritative contractures may occur. There is a tendency to bed-sores, especially over the trochanter and the nates of the paralyzed side, in severe cases.

The facial paralysis is usually on the same side as that of the limbs. It affects only the parts supplied

by the lower division of the facial nerve, the nose, cheeks and mouth. The expression of the face is lost. The twist is sometimes very pronounced. In other cases it is only noticeable when the patient laughs or cries. The tongue, when protruded, points to the disabled side, the geniohyo-glossus muscle, on that side, being paralyzed. The muscles of the palate may be affected. Ptosis and strabismus are occasionally present on the side opposite that of the paralyzed limbs.

Aphasia is sometimes the prominent symptom. The power of speech may be absolutely gone, or, it may be greatly modified and restricted. The memory of words may be partially or completely lost from the mind (amnesic aphasia), or, the power of articulate speech only may be wanting (ataxic aphasia). There may be a stumbling over syllables, so as, for instance, to call a widow a window (literal ataxia). The mental association of individual ideas with particular words may be broken up, leading to the indiscriminate use of words (paraphasia). There may be word-deafness, so that the vernacular may sound to a person like a foreign, and unknown language; or word-dumbness, the person being unable himself to call up words, while quite competent to comprehend words spoken by others. There may be the coining of a single meaningless phrase, which is made use of on all occasions, and for all purposes of expression (monophasia). Modifications of speech-power appear in every conceivable form, and with every possible limitation. The allied disturbances of agraphia, anamnia and alexia are often associated with aphasia. Abstractly speaking, aphasia and mental imbecility are entirely distinct affections, but I think the former can hardly exist, in any considerable degree of development, without some association of the latter.

An interesting case of monophasia occurred in my practice some fifteen years ago. The patient was a man not far from forty-five years old. A week before he had experienced an apoplectic shock. He had right-sided hemiplegia and aphasia. He had been lifted up into an arm-chair. His vocabulary consisted of three words, "yes," "no" and "boudeegy." His wife proposed that he should read me his favorite hymn, and he read with great animation and satisfaction four verses, as follows:

Boudeegy, boudeegy, boudeegy, boudee,
Boudeegy, boudeegy, boudee,
Boudeegy, boudeegy, boudeegy, boudee,
Boudeegy, boudeegy, boudee.

He looked up at me eagerly for sympathy in the sentiment. I saw him repeatedly within the next few months. The hemiplegia passed off. His health was restored. The aphasia remained. Ten years later I met him in the car. He greeted me with a warm shake of the hand, a bright expression of the face, and the single word "Boudeegy." He introduced me to the gentleman sitting beside him, "Boudeegy, boudeegy." "Glad to know you, Mr. Boudeegy," said I, and we shook hands cordially. He had opened a village store, and was engaged in successful business. He controlled affairs. His clerk did most of the talking. He had added, as I learned, one word to his vocabulary. Under extreme provocation he would say "damn." Last summer I met his old physician, who told me there had been a religious revival in the village, our patient had become interested, and had left off saying "damn." He had

reduced his scanty vocabulary twenty-five per cent. for conscience's sake.

Aphasia is sometimes, though rarely, present without hemiplegia or coma. It may constitute the only obvious manifestation of a slight cerebral lesion. I saw an instance of this sort a few years ago. The patient was a lady about seventy years old. She had suddenly lost the power of speech. There were no associated phenomena. Her intelligence was perfect. Her natural manner, which was peculiarly sprightly and attractive, had lost nothing of its individual charm. She was speechless. That was all. The aphasia lasted some six weeks, when one morning she astonished her son-in-law, who had entered her chamber, by remarking "Charles, that's a match-box on the mantel. I've been trying to get hold of that word for a month." The recovery was as complete as it was sudden. The cerebral lesion in this case must have been slight. Was it hemorrhagic, embolic or thrombotic, which?

Impairment of mental power is a frequent permanent result of hemorrhagic apoplexy. Even in instances spoken of as perfect recoveries, it may well be doubted whether the full original power of achievement and endurance is regained. There generally results a weakening of the will-power, while the emotions are excitable and less easily controlled, and the temper is irritable and moody.

In the lighter cases of cerebral hemorrhage improvement soon begins. The indirect focal symptoms promptly disappear, and those directly resulting from the primary brain injury may gradually diminish, until, in the course of two or three months, the patient may consider himself as perfectly recovered. The sensibility returns first, and often very quickly. The facial paralysis may rapidly diminish, or disappear. Improvement is earlier, and more complete in the lower than in the upper limb.

In the severer cases, when a fatal result does not occur within the first week, the paralysis, aphasia and mind-weakening may become permanent. The hemiplegia is likely to be more considerable and permanent in proportion as the primary injury to the internal capsule is more extensive. The hemiplegia gait is peculiar. The body is inclined upon the strong limb, while the paralyzed limb is dragged after it, with a tremulous jerk and swing, the depressed toe causing a continual liability to trip.

Later in the history of cerebral hemorrhage attended with persistent paralysis, permanent contractures of muscles occur. These affect the upper more than the lower limbs. Associated with them are marked atrophy and tissue-degeneration. Some authorities, notably Charcot, attribute these changes to a descending degeneration of the pyramidal columns of the cord, while others regard them as "passive contractures," resulting, like the permanent paralysis itself, from the primary injury of the pyramidal tract. As pointed out by Weir Mitchell, "post-hemiplegic chorea" often involves the paralyzed muscles.

Persons who have had one attack of cerebral extravasation are very likely to have repeated ones. The degenerative process in the vessel-walls is progressive. Each seizure is more likely than the preceding one to end fatally, and each one if not directly fatal, entails new degradation of vital power. Death by coma comes about in this way, or some intercurrent disease carries off the patient.

II. THE EMBOLIC FORM.

The middle cerebral artery, oftener the left, is the usual site of brain-embolism; rarely the internal carotid, or the basilar artery. Embolic softening, when it occurs, involves, in the great majority of cases, the same parts usually involved in cerebral hemorrhage, including the internal capsule and the great central ganglia. The first direct effect is anemia of the brain-tissue usually supplied by the plugged artery. If no relief be afforded by the establishment of collateral circulation, within twenty-four hours, the process of necrobiosis commences. Fatty degeneration and softening occur, and the tissue perishes. If the injury inflicted upon the brain be not too extensive, and the patient lives, the dead matter is removed by absorption, and may be replaced by a cyst, or cicatrix, as often seen after cerebral hemorrhage.

If the emboli be infectious, or gangrenous, gangrene or abscess may be expected to follow. The chief sources of the emboli are endocarditic and atheromatous deposits upon the mitral and aortic valves, and thrombotic deposits upon the walls of the aortic and large arteries at the base of the brain, and aneurism of the aorta.

The clinical history of the embolic form of apoplexy bears a very close resemblance to that of the hemorrhagic form. Indeed in some cases, a positive diagnosis between them is impossible.

The primary shock is the same in kind in both cases. The onset is sudden and absolutely without warning. There are none of the cerebral premonitions so often present in hemorrhage of the brain. When vascular and nutritive lesions exist in the brain, it is only a matter of coincidence. The embolus is of other and distant origin.

The intensity of the shock varies greatly in different cases. There may be only slight confusion of mind, or there may be profound coma. In perhaps half the cases, coma is absent. The unconsciousness, the stertor, the slow pulse, the vomiting and the immobility and irregularity of pupils may all be present, but they are not so frequently present, nor, as a rule, so pronounced as in hemorrhagic apoplexy. Exceptionally, the primary shock is slight, and the coma is more gradually developed, as if the emboli were small, and required reinforcement, by the formation of a thrombus about it, before becoming competent to produce marked effects. The coma is not usually so long continued as in extravasation, and instances in which it remains till a fatal issue, are very rare.

The symptoms remaining-over, after the passing-off of the coma, are the same in the embolic as in the hemorrhagic form, namely: hemiplegia, aphasia and impairment of mental power.

The hemiplegia is the most constant symptom. The paralysis is usually on the right side of the body, always on the side opposite that of the brain lesion. The upper limb is usually more affected than the lower. Involvement of a single limb only is less frequent. The face may, or may not be involved. The paralysis may be permanent, as is so often the case in extravasation, but more frequently it is quickly and sometimes completely recovered from. Great individuality is given to cases by varying combinations of the four essential elements of shock, coma, paralysis and aphasia.

Aphasia is present, in association with hemiplegia, with great frequency. It may occur in any of it

forms and in any degree of development. It may also occur as an almost solitary symptom, without the association of either coma or hemiplegia. In such cases prompt and complete recovery often ensues. The anatomical basis may be some slight thrombotic, rather than embolic, lesion. Epileptiform convulsions are said to exist more frequently, as a complication, in embolism than in extravasation.

It is doubtful whether organic aphasia, any more than extravasation, ever exists without some resulting permanent loss of mental and physical power. The degree of such loss varies with the extent and location of the cerebral lesion. It is never so great from embolism as from extensive hemorrhage.

When recovery has been made from a first attack of cerebral embolism, resulting from chronic cardiac or vascular disease, the permanent liability of a repetition must remain.

In making the differential diagnosis between embolic and hemorrhagic apoplexy, the following-named circumstances would have weight as pointing towards embolism, namely: (1) absence of cerebral prodromic symptoms, such as vertigo, headaches, face-flushing, etc.; (2) history of pre-existing cardio-vascular disease; (3) co-existing embolism of other organs, as retina, or kidney; (4) the occurrence of hemiplegia alone, without sudden loss of consciousness; (5) lightness of shock; (6) rapidity and completeness of recovery; (7) early life.

III. THE CONGESTIVE FORM.

The pathological basis, in this form of seizure, is distension of the cerebral vessels with arterial blood. The actual state of the affected brain-tissue is that of anemia, from pressure of the distended arteries. Passive congestion of the brain, in which the veins and sinuses are crowded with venous blood, as the result of cardiac, or other form of obstruction, is not direct primary cause of apoplexy. It produces it sometimes indirectly by favoring the occurrence of hemorrhage.

Circumstances predisposing to arterial cerebral congestion are general plethora, a sanguine temperament, a short, thick neck, and the age of early maturity. The most common exciting causes are excessive muscular, mental and emotional activity; pure, non-compensatory hypertrophy of the left ventricle of the heart; over-feeding, with lack of exercise; alcoholic over-stimulation; and vaso-motor influence. Obstruction to the natural flow of blood in the arteries of the organs and parts may also lead to excessive flow into the arteries of the brain.

Prodromic symptoms are quite constant, such as headaches, a sense of cerebral fulness and throbbing, noticeable beating of the carotid and temporal arteries, flushing of the face and eyes, heavy heart-action, asympnia, mental confusion, nervousness and irritability.

The seizure is marked by shock and unconsciousness, as abrupt, and often as pronounced as in extensive hemorrhage into the brain. The face is flushed, the eyes are injected, the pupils are contracted, the pulse is full and bounding, the breathing is heavy and stertorous, and the throbbing of the carotid is visible, as well as palpable. There are no unilateral phenomena.

If prompt and judicious administration be made of sedative and depletive treatment, relief is usually

quickly obtained. The liability of vascular rupture and extravasation constitutes the chief danger. The recovery may be complete, but the necessity of careful regulation of the diet and regimen, with a view to prophylaxis, is imperative.

The congestive form of apoplexy is distinguished from the hemorrhagic and embolic forms by the distinctive group of symptoms connected with the seizure, and by the absence of the remaining-over symptoms, hemiplegia, aphasia, and impairment of mind. It is separated from the uremic form by the absence of albumen and tube-casts from the urine, and its freedom, as a rule, from the convulsions so common in uremia. The differential diagnosis from alcoholic coma would be helped by the exclusion, both from history and environment, of everything suggestive of alcohol.

IV. THE UREMIC FORM.

The anatomical basis in this affection is the contracted kidney, or the kidney of diffuse chronic nephritis.

The essential pathological condition is toxæmic. There is an accumulation in the blood, and also probably in the tissues, of urea, or at least of some one, or more, of the excretitious products of tissue-metabolism, of which urea represents the final stage, which are normally thrown off in the urine.

The coma of uremia is sometimes gradually developed, without sudden attack. In other cases coma occurs with apoplectic suddenness. It is only with the latter class of cases that we are now concerned.

These may be prodromic phenomena, such as headache, dizziness, dyspnea, dyspepsia, edema, or a fleeting sensation, as if about to faint. But the seizure is abrupt, with marked shock. A man of early or middle mature life, of pale complexion, and contrasting in physique with a subject of congestive apoplexy, who has never thought of himself, or been regarded by his friends as a sick man, is suddenly stricken down. Later, in retrospect, friends may be able to recall little circumstances indicative of slight impairment of vigor and elasticity of mind or body, which did not at the time arrest their attention. The coma is profound. The face is pale, and often covered with cold sweat. There is stertorous breathing, and the pupils are dilated.

In the great majority of cases the coma is preceded by, or accompanied with, convulsions. These are epileptiform in character, with frothing at the mouth, and biting of the tongue. The convulsions may be repeated at longer or shorter intervals, and death may occur within two or three days, with no recovery of consciousness; or, the coma being less profound, consciousness may be recovered, and weeks or months may elapse before the occurrence of the final and fatal seizure. During this interval the characteristic anemia of chronic Bright's disease may become rapidly developed.

Hemiplegia and other symptoms, which characterize cerebral extravasation and embolism, are usually absent. So also are the peculiar physiæque, the flushed face, the injected eyes, the contracted pupils, the full, bounding pulse, and the other characteristic symptoms of active cerebral congestion. The finding of albumen and tube-casts in the urine, which should be early drawn by the catheter and tested, completes and establishes the diagnosis.

TREATMENT OF UTERINE FIBRO-MYOMATA BY ABDOMINAL HYSTERECTOMY.

BY J. C. IRISH, M.D., LOWELL, MASS.

THAT there are some cases of uterine myomata, in the treatment of which hysterectomy is our only resource, very few will question. But we shall find a very wide divergence of opinion as to the extent or frequency with which this operation for radical cure should be advised or is justifiable.

The high rate of mortality that attended abdominal hysterectomy for fibroids, until very lately, explains in part the small degree of favor still accorded by many to the operation. Again, a just estimate of its value and necessity is prevented by some vague and erroneous notions as to the progress of myomata, the suffering they cause, and the fatality that attends them. Thirdly, certain palliative modes of treatment are offered as substitutes for hysterectomy, which are claimed to be so efficacious as to obviate all necessity for the latter operation, except in very rare instances.

Therefore, in considering the treatment of uterine fibroids, we have the radical method, hysterectomy, to compare with the palliative methods, namely, removal of the uterine appendages, electrolysis as taught by Apostoli, and the treatment of the endometrium by medicinal applications and the curette (this third method being directed to the relief of that prominent symptom, hemorrhage).

But before making any comparison between the treatment for radical cure and that for palliation, an inquiry as to the tendency and natural history of these abnormal growths will aid us very much in assigning to each method its relative and exact value.

The different terms, fibroma, myoma and fibro-myoma, used in describing these tumors of the uterus, indicate no very marked distinctions from the standpoint of the pathologist. Histologically they are composed of unstriated muscular fibre and connective tissue in varying proportions, precisely as is the uterine structure, and they differ from the latter merely in the relative proportions of the two kinds of tissue.

Upon this subject, Dr. Gusserow says:¹ "If the tumor represents mainly a simple hyperplasia of uterine tissue (such as is normally witnessed in pregnancy), there is a preponderance of muscular over connective tissue-elements. In that case, the growth approaches the type of pure myoma. On the other hand, if from the very incipiency of the new formation the connective tissue predominates, or if it does so secondarily, by a process of fibrous induration, the muscular tissue being held in abeyance, as it were, we get an almost pure fibroma. Nevertheless, it would not be in accordance with histological principles to divide these tumors into myomata and fibromata, since, as already stated, both varieties of tissue invariably coexist in them."

A separation of uterine fibroids into two classes was made by Mr. Tait in 1874. The one he designated as "soft oedematous myoma," the other, as "nodular myoma." This classification in one way is as objectionable as the preceding, for there is no distinct line of division between the soft and the hard myomata. Clinically we find them all the way from those that have the hard feel of a rock and cut like cartilage, to those that are so soft that they give a doubtful sense of fluctuation through the abdominal walls, and upon

¹ *Cyclopedia of Obstetrics in Gynecology*, vol. ix, p. 186.

section have very much the appearance of lipomata. In another way this division is important, for in many instances it is possible to distinguish the very soft myoma from the firm nodular one. The former variety is more richly supplied with blood; its growth is usually continuous, rapid and unaffected by the meno-pause, while it is more liable to dangerous degenerations than the latter. Therefore, the recognition of a soft myoma, as will be shown elsewhere, will modify greatly our prognosis and treatment.

Making use for the moment of that somewhat arbitrary division of uterine fibroids, with reference to their direction of growth, into subserous, interstitial and submucous myomata, we shall omit all consideration of the last class. They are pedunculated growths in the uterine cavity, and their treatment by removal through the vagina is established beyond all question. The same is true of a portion of the interstitial growths. Those that invade mainly the cavity of the uterus can best be reached by the same route as the submucous, and removed by enucleation. Therefore, one of these classes, the submucous, and a part of the second class, the interstitial, need not further engage our attention with reference to treatment.

The fact seems well settled, that the development of these neoplasms never begins before the establishment of the menstrual function, nor after its cessation. Still I have seen one case in which a rapidly growing fibroid was first found many years after the meno-pause; and I think several other similar examples have been recorded. Yet it is very probable that these tumors may have begun during the menstrual life of their possessors.

They commence in the muscular or connective tissue structure of the body of the uterus, exceptionally in the cervix, and, as a rule, grow very slowly at first. They are single growths in about one-half the cases, and in the other half, multiple. The multiple fibromata, or multinodular, as Mr. Tait calls them, are much more likely to grow slowly and never to reach any very great size, and to complete their growth at or before the time of the meno-pause. They are almost certain, at an early period of their existence, to give rise to menorrhagia. For the rule is that one or more of them will extend towards the uterine mucous membrane and produce in it those changes that are usually the cause of hemorrhage. The single fibromata generally grow more rapidly and often in the direction of the abdominal cavity. Like the multiple fibroids in the early period of their progress, they cause profuse menorrhagia. But as they ascend into the abdomen and become, as often happens, more or less pedunculated, the hemorrhage becomes less, or entirely ceases. There are, however, frequent exceptional cases in which the menorrhagia continues when the subserous fibroma has a location somewhat remote from the endometrium. This symptom is then probably due to a general hyperemic condition of the uterus.

It is not a very unusual occurrence in cases of multinodular myomata for one of them to advance steadily and invade the abdominal cavity, while the others remain stationary in size. The case then becomes one which practically follows the course of single subserous myomata.

In tracing the natural history of uterine fibromata, the one question of paramount importance that arises, is this: Are we dealing with a self-limited

disease? That is, does the development of these neoplasms end with the establishment of the meno-pause? Again, if their growth does stop at this time, a second question presents itself, as to what extent their after-history of retrogression is free from suffering or danger.

The mode of treatment, whether palliative or radical, that should be chosen, will depend greatly upon the answers to these questions. The first one has been answered so often and so positively in the affirmative, that it never has occurred to any one to question or investigate the correctness of the answer. It has been laid down and accepted as a rule, that the progress of uterine fibroids of all classes ended with the cessation of the menses, and that, after that time, they gradually disappeared or diminished in size, or at least, became harmless. The exceptions to this rule have been regarded as so rare as to merit but little attention.

Mr. Tait, however, says of the "soft edematous myoma": "It is no regarder of age. The largest I ever removed — over sixty pounds — grew almost entirely after the meno-pause; patient's age, sixty-three." He further remarks that the hard, multinodular myoma is a disease of menstrual life, and the soft, edematous myoma certainly is not; that is, Mr. Tait makes an exception to the rule in the latter class of myomata, whose relative frequency is certainly great enough to go a long way in invalidating it.

The observations that my own small experience has permitted me, are in accord with those of Mr. Tait in regard to soft myomata and small multiple fibroids. But in three instances I have removed by abdominal section nodular fibromata, that were growing rapidly at a period of from one to three years after the meno-pause had been completely established. In another case I attempted the removal of a large fibroid in a patient sixty-nine years of age, because it was growing very fast, and had doubled in size within the preceding two years. This tumor could not be classed as a soft nor as a hard nodular myoma. In density of structure it seemed to be about half-way between the two.

Of sixteen abdominal hysterectomies that I have made, I have operated in seven, after the time of the climacteric period, either because the tumors were growing or were otherwise dangerous to the life of the patient. Thus of my sixteen cases, one-half of them lacking one, developed the formidable symptoms necessitating hysterectomy after the meno-pause. This seems to me a sufficient answer to the second question, namely: Do uterine myomata become harmless when the climacteric is passed? Therefore, from the facts that have been given, I submit that the rule, that the development of uterine fibromyomata ceases at the time of the meno-pause, and that ever after they become innocuous, has so many exceptions that it becomes almost valueless as a guide to treatment.

I do not for a moment doubt that most of the hard-multiple myomata and many of the small single ones, particularly those that have existed for a long time, complete their development with the advent of the meno-pause, and afterwards entirely disappear or become much diminished in size, and of no further inconvenience to the patient. On the other hand, I am very certain that those subserous and interstitial myomata, whether soft or hard, that have attained already a considerable size and have encroached to quite an extent upon the abdominal cavity, are not

much influenced in their progress by the cessation of the menstrual function.

Furthermore, a careful study of the natural history of uterine myomata in a large number of cases, cannot fail to convince one that the three or four years preceding and following the menopause are especially disastrous to patients suffering from this disease.

Out of sixteen hysterectomies by abdominal section ten of them became necessary during this period. Keith, a few months since, published a book in which he reported 106 cases treated by electrolysis. Omitting from this number twelve, in which the existence of a fibroid was doubtful or in which it was submucous, we have remaining 94 cases; 43 of these, or almost one-half, first went to him for treatment between the ages of forty-two and fifty inclusive.

According to a table of 798 cases prepared by Schröder,² 407 of the number, or fifty-one per cent., first sought medical aid between the ages of forty and fifty.

Again, the method of treatment to be selected will depend, to a considerable extent, upon the severity of the disease, the amount of suffering, and the infirmity it occasions, and the danger to life with which it is attended. There can be no doubt of the very frequent occurrence of uterine fibromata; and that in quite a proportion of cases no serious inconvenience results, and no treatment is necessary. But we have no reliable data upon which to base any conclusion as to their frequency; nor are we interested in that indefinite number that do not require treatment. What will be said, therefore, of the seriousness of the affection, will have reference only to that class of cases in which some kind of treatment is indispensable.

Passing in review as hastily as possible some of the symptoms, complications and degenerations attendant upon fibroids, that constitute their gravity and danger, we have first, hemorrhage and pain. Both occur, as a rule, with interstitial tumors, and exceptionally with the subserous. All will agree that both are prominent factors in making invalids of patients with myomata, just in proportion to their severity and persistence.

Pressure within the pelvis upon ureters, bladder and rectum, often gives rise to very serious symptoms other than pain. Both interstitial and subserous fibroids, on account of the great size they attain, frequently become a distressing and dangerous disease. Parenthetically, it may be said of these large tumors that they have formed adhesions to surrounding structures, especially the omentum, and thence derive a rich blood-supply. In eight laparotomies that I have made for myomata that nearly filled the abdominal cavity, this condition existed.

As complications, I have in four instances found cystic ovaries; and in one, pus in the pelvic cavity, probably from a ruptured pyosalpinx. Dr. Wyllie³ says, "In the majority of cases in which I have removed the tubes and ovaries to stop the growth of fibroids there has been salpingitis, and in many of these I have found large quantities of pus in or about the tubes and ovaries." Mr. Tait also says that in a large number of operations he found the myoma complicated by double pyosalpinx.

Most important of all are the degenerations to

² *Krankheiten der Weiblichen Geschlechtsorgane*, Leipzig, 1884, p. 216.

³ *Transactions of the American Gynecological Society*, vol. xiv, p. 119.

which these growths are liable. The whole class of so-called fibro-cystic tumors of the uterus are, undoubtedly, degenerate myomata. They sometimes suppurate, and contain pus cavities. Their structure becomes necrotic, wholly or in part, from interference with the blood-supply; or softened and broken down, from the effects of inflammation or serous effusion. It has been demonstrated, too, beyond all question, that they degenerate into sarcomata. Under these circumstances the uterine fibroid becomes as certainly fatal as a degenerating ovarian cystoma.

The observations of Dr. Martin upon this subject, as quoted by Dr. Cushing, have so important a bearing that I append them: "Of the 205 myomata of the corpus, therefore, only ten showed pronounced conditions of involution; 32 were undergoing a transformation which must be designated as very serious for the women afflicted with them; six were malignant degenerations; and nine showed a fatal complication with carcinoma. If we leave the latter cases out of consideration, as being accidental complications, the fact remains, that yet 38 out of 196, or out of 186 (if we subtract the cases of involution of the tumor), 38, that is, 20.4 per cent. showed changes, which certainly represented the opposite of that which was called benign."

If this brief and very imperfect presentation of the development and complications of uterine fibromata be accepted as substantially correct, it must be concluded that we are considering the treatment of a disease, that is not self-limited, and that is formidable and dangerous both to the health and life of the woman thus afflicted. For the management of this grave affection we have, on the one hand, as has already been said, the radical method of treatment, hysterectomy, and on the other, certain palliative methods. First among the latter stands Tait's operation for the removal of the uterine appendages; the object of which is two-fold, first to arrest hemorrhage by inducing an artificial menopause, and secondly, to stop the growth of the tumor. In those cases where the myoma is small, and where hemorrhage is a prominent symptom, and is likely to continue to be so for several years, this operation is especially indicated. Also when the growth is recent, small, and steadily growing, and the patient is young, it so often completely terminates the affection, so far as any further symptoms are concerned, that it becomes a resource of treatment of very great value. When employed in the limited range of cases that I have indicated, removal of the uterine appendages has rarely failed to relieve the hemorrhage, and has usually been successful in arresting the growth of the tumor. In spite of some failures, its measure of success has been great enough to make it a method of treatment with which we could not well dispense. But when uterine fibromata (subserous and interstitial) have reached a large, or even medium size, and have extended considerably into the abdominal cavity, removal of tubes and ovaries becomes a very difficult, and sometimes an impossible operation. In comparison with hysterectomy, it is fully as formidable and dangerous. At the same time it is merely palliative. It is true that it may stop hemorrhage, but this is a serious matter only exceptionally in these cases. Again, it often fails to arrest their growth, and certainly fails to remove the other attendant dangers of degeneration, that are a constant menace. Therefore this operation can, in no way, take the place

of hysterectomy. It rather supplements the latter, in that it is especially applicable to small bleeding fibroids in young patients, where hysterectomy would be particularly difficult to do, and would be a procedure of greater danger than the existing gravity of the disease would warrant.

The second palliative mode of treatment that we have to compare with the radical, hysterectomy, is electricity by the method of Apostoli. Some of the advocates of this treatment, notably Keith, have claimed for it, in the cure of fibroids, an efficacy so great as to obviate all further necessity for the operation of hysterectomy. Apostoli himself, however, has never made for it any such claim. I have never made trial of Apostoli's method, and therefore know nothing of it from actual experience. So I am forced to draw my conclusions in regard to its value, and consequent relation to hysterectomy, from the testimony of others. Fortunately there is no lack of witnesses; but unfortunately, the evidence they give is conflicting almost to contradiction. Keith, in the publication referred to above, reports 106 cases treated by him with electricity, but does not give any summary of the results of his treatment. Yet following through the cases in detail as recorded by this writer, it would appear that electricity, often after a long-continued use, relieved the hemorrhage in most cases, but failed to do so in some; that a few very small tumors were made to disappear entirely; and that many others were diminished somewhat in size. This diminution, however, was noted principally in those that did not extend to the umbilicus. For the most part, there was no decrease in the size of the larger ones. Mr. Keith lays special stress, in reporting these cases, upon the claim that most of these patients felt better after the use of the electricity than before; they suffered less pain, and were less invalids. In one instance the treatment gave a fatal result. In several very successful cases the existence of a tumor, to say the least, was doubtful.

Dr. Chadwick,⁴ after reporting the cases in which he had employed Apostoli's method, says: "It will be seen from these brief records that the only favorable results were in diminishing menorrhagia (Cases I, V), and once (Case III), in temporarily relieving dysmenorrhea. In no case did the fibroid decrease, during or subsequent to treatment. In three cases (II, X, XI), metro-peritonitis was caused, one of which terminated fatally. In one case (IX), septicæmia set in, resulting fatally. In two cases (VI, VII), menorrhagia was increased. With the experience that I have had, I feel warranted in insisting that the method is a dangerous one; that its claims to diminish the bulk or even arrest the growth of fibroids is questionable and unproved. Its alleged effects in arresting hemorrhage of the uterus, through its caustic action upon the lining membrane of the uterus, has *a priori* considerations and a preponderance of experience in its favor. Whether it is the safest and most efficient agent to achieve this end, seems to me open to question."

Dr. Homans says, "The curative action of the electrolysis à la Apostoli, is very problematical, and it hardly even diminishes the size of the tumors."

Dr. Martin, of Chicago, says, "Fibroid tumors of small size can be completely absorbed by the proper currents of galvanism."

⁴ Transactions of the American Gynecological Association, vol. xiv, pp. 132, 133.

Dr. Doléris, of Paris, through his assistant, Dr. D. Angel Villa, says, "After a thorough and extended trial of Apostoli's methods, no disappearance or marked diminution of the tumors was noted."

In the summary of a report of thirty cases treated by the method of Apostoli at St. Bartholomew's Hospital, the operator concludes with the following words: "The results of the cases reported are not as brilliant as could be wished, and the treatment is not entirely free from danger, as shown by the fatal case; but compared with other methods, it is probably the best short of actual removal by operation. Whether the advantage, which is small, is worth the extra trouble and time involved, it is difficult to say. This point can possibly only be decided by reference to the circumstances connected with each case. It would seem that Dr. Apostoli has not found it so uniformly successful as he at first believed, for he has recently advocated the treatment of uterine fibroids by the interrupted current. The tumors do not decrease much in size, but in the thirty cases only two have increased. Hemorrhagic myomata are those most favorably influenced by the treatment."

Whatever else the above testimony may show, it incontestably demonstrates (even that portion of it most favorable to this method) that electricity is no direct substitute for hysterectomy. It has signally failed, even as a palliative procedure, exactly in those cases where the radical operation is indicated, namely, the very large interstitial and subperitoneal tumors. In short, whatever value it has, is shown principally in the treatment of small bleeding myomata, precisely as is the case with the first palliative removal of the uterine appendages. The only way that either of them can be claimed in any manner to restrict the application of hysterectomy in the treatment of fibroids is by stopping the growth of small tumors, and thus preventing the necessity of the latter operation at some future time.

There remains to be mentioned as briefly as possible the third palliative method — use of the sharp curette for treatment of the endometrium. This procedure is directed solely to the relief of hemorrhage, and is usually successful when the uterine cavity is not too much distorted to prevent the operation from being thoroughly done. It is more reliable means of treating menorrhagia than electrolysis. It may also, with advantage, take the place of the comparatively grave operation — removal of the uterine appendages — when hemorrhage is the principal symptom requiring treatment.

Finally, abdominal hysterectomy, the treatment for radical cure, remains to be considered. From our deductions in regard to palliative methods, it follows that this operation, in large interstitial and subserous myomata, is our only resource. That the disease is one of very great gravity with reference to the health and life of the patient has, I think, been clearly shown. In view of this fact, has the danger of the operation become sufficiently small to warrant its general employment in these cases? The operation may be said to have commenced its legitimate existence about the year 1865. During the following twenty years, that is up to 1885, there was something over six hundred recorded cases of laparotomy for the removal of uterine fibroids, with a mortality of about thirty-three per cent. This great fatality is partly explained by the fact that these cases represented the early experience of the

operators, but in much greater degree by the additional fact that most of them were simply operations of last resort. And from this, we may again infer that a fatal tendency often attaches to uterine myomata. The results of hysterectomy during this period are not at all surprising when we recall that the death rate of ovariotomy was almost as great when it occupied a similar position as a last resort procedure. The great fatality of the operation, which prevailed until lately, explains also the eagerness with which any palliative means of treatment was welcomed by surgeons, and the exaggerated praise accorded to it in every supposed case of success.

Since 1885, and especially during the past two or three years, the operation has made very rapid progress in point of success. While it had a fatality of thirty-three per cent. five years ago, now the proportion of failures has become so small in comparison, that the advisability of hysterectomy in any given case has become an entirely different question. The percentage of success that is attained at the present time can only be approximately determined.

My own cases of hysterectomy are too few in number to be of the least value, so far as their percentage of deaths or recoveries is concerned. My last six in succession have recovered. Looking back over the failures of my earlier work, and seeing how many of them were due to preventable causes, I feel very certain that in the future my unfavorable results after hysterectomy will not exceed ten per cent. Dr. Holmes has recently reported ten successive recoveries.

In a total of about one hundred cases, Dr. Bantock has had not far from a ten per cent. loss. His later operations, I believe, give a mortality considerably less than this. On the whole, it is probable that ten per cent. approximately represents the present mortality of the operation.

Again recurring to the many dangers that attend the large interstitial and subserous fibromata, and recalling the many ways in which they kill, and especially (of the several degenerations to which they are liable) those of malignant character, that Dr. Martin found in twenty per cent. of 186 cases, I feel warranted in insisting that hysterectomy, which entirely cures nine out of every ten of the patients, is urgently indicated. I claim, too, that apart from the dangers mentioned, the operation, with its present small fatality, is perfectly justifiable for the cure of the hopeless physical and mental suffering that these large tumors often inflict. When its mortality is still further decreased by its prompt employment, and, by the consequent elimination of many cases that have become desperate by delay, abdominal hysterectomy will take its place among the great surgical procedures of the half-century, second only to ovariotomy in its brilliant success.

— A correspondent writing to an English contemporary throws a light upon the dark side of the subject of purchasing medical practices, when he says: "About nine months ago I bought a practice, which, to say the least, has not turned out altogether an unequalled financial success. When I mention (with a blush) that one of the names given to me belonged to a patient who died four years ago, and that several others had been previously, as I subsequently ascertained, handed over to a neighboring practitioner, it will be readily understood that it was not the practice alone that was sold."

ADENOID GROWTHS IN THE NASO-PHARYNX: RESULTS OF THEIR REMOVAL IN SEVENTY CASES OF MIDDLE-EAR DISEASE.

BY FREDERICK L. JACK, M.D.,
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THE importance of nasal and post-nasal obstructions in their relation to diseases of the middle ear has recently received careful consideration in the admirable paper of Dr. Franklin Hooper on "Adenoid Vegetations in Children," and also in the article written by Dr. Clarence J. Blake on the "Relation of Adenoid Growths in the Naso-Pharynx to the Production of Middle-Ear Disease in Children." In reading a brief report of seventy cases, I offer nothing original, but wish to emphasize what has already been said as to the encouraging results obtained by removal.

For the opportunity of operating on many of the patients, I am indebted to the aural surgeons of the Infirmary. Observations on these, together with private ones, extending through a period of eighteen months, warrant the belief that the relief from ear trouble in many is permanent. A hundred or more children were examined for adenoids, and if found in small amounts and soft, attempts were made at their removal with the finger. These cases have no value in statistics. I regret that notes of these were not made for comparison with those receiving more thorough interference.

In only a few of the seventy cases was nasal breathing especially interfered with. A number were heavy breathers from obstruction of the nasal passages by the growths, but in a few, the condition of the drum membranes, or the middle ear, aroused the first suspicion of post-nasal growths. That even a small amount of vegetations is frequently found in children suffering from deafness and otorrhoea, or both, is a frequent experience. If these cause or aggravate the ear trouble, in what way do they act? Is it mechanically by pressure near the orifice of the Eustachian tubes, preventing their opening, or is it rather by the changed direction of the inspired air, preventing the normal interchange of air with the middle ear, or is it by inflammation of the tubes by extension from the pharynx of a catarrh induced by the growths?

In spite of what has been written, the importance of the relation between the vegetations and ear diseases seems not to be appreciated by all. Let me briefly cite the following case as a rare example of the distressing condition induced by these tumors:

T. A., age five, was brought to the Infirmary in July, 1888, for deafness. Examination showed the drum membranes reddened and completely collapsed. The hearing power for the voice was very defective, and not improved after attempts to inflate the ears. The mouth was wide open, and the lips cracked and bleeding. Breathing through the nose was impossible. This condition was of a year's duration, and had caused the patient many sleepless nights and the parents much alarm. All the symptoms described by various writers on this subject were painfully exaggerated in this child. The post-nasal space was found, on examination, completely filled with growths. Operation was performed in July, 1888, and though rather long, nothing unusual happened. Immediately after the operation she could blow through the nose and could also use it for breathing. On inflation a day or two after, air entered the middle ears freely. Low

voice was heard at sixteen feet. She made an uninterrupted convalescence.

March 24, 1890, nearly one year and nine months afterwards, the mother reports the child's condition as excellent. Has had no trouble about hearing, and only at times, while suffering from a cold, has the breathing been interfered with.



FIG. 1.
From a photograph taken just before the operation, the child holding her breath.



FIG. 2.
From a photograph taken one year after the operation.

Of the seventy cases operated on, forty-three were males and twenty-seven females. The ages varied as follows:

Under five years	7
Five to ten years	41
Over ten years	22
Total	—
	70

The diseases of the middle ear were the following:

Otitis catarrhalis mucosa chronica	20
" " serosa	8
" media acuta simplex	18
" " suppurativa acuta	6
" " " chronicus	15
" " " cum granulations tympani	3
Total	—
	70

The instruments employed in operating were Hooper's modification of Löwenberg's forceps, but with larger blades, a rubber palate retractor, and the O'Dwyer mouth-gag. Patients were completely etherized and placed in an upright position.

In regard to sequelæ, it may be well to mention that seven experienced a sore throat after the operation, but in three only was it serious enough to cause discomfort. Of the seven, three had acute otitis. I experienced no trouble from haemorrhage, although at times it seemed a good deal. Drs. Bryant and Plummer kindly assisted in most of the operations.

It occurred to me to note the situation of the growths in relation to the kind of ear trouble. In fifty-one cases the vegetations were located chiefly on the posterior wall of the pharynx. Of this number, forty-six had non-purulent otitis. In nineteen the development was more extensive in the vault, and was associated with purulent disease in ten. From this it would appear that the location of the growths had little to do with the nature of the ear disturbance. In forty-four cases both middle ears were affected, fifteen experienced trouble in the left only, and eleven in the right ear. Among the number were two deaf mutes. In the case of one the growths offered an almost com-

plete obstacle to the entrance of air through the Eustachian tubes. This operation entirely removed, and the ears could be inflated with ease. Improvement in hearing was hardly expected, for in this case, as in the other, the labyrinth was already affected. I might mention incidentally that there was nervous twitching in one of the mutes, which suggested chorea. This quite disappeared after the operation, and when last seen, nine months afterwards, was barely noticeable. The faecal tonsils were hypertrophied in seven cases, and removed in two.

In considering the question of recurrence, I regret that the opportunity of subsequently examining the seat of operation was limited to a very few of the cases. Two subsequently returned for a second operation. Most writers, however, concur in the opinion that recurrence is due to want of thoroughness on the part of the operator to completely remove the growth.

In obtaining results, printed questions were mailed to the parents, and in most cases answers were received. Of those from whom no replies were received, the notes made at their last visit were depended on.

In cases of frequently relapsing ear trouble, it was expected of the operation to prevent recurrence. In the more acute cases, some improvement could be expected from treatment directed to the ears alone. In these cases, too, the operation was performed with a hope of preventing subsequent relapses of the ear trouble.

For the sake of easy comparison, we will classify the diagnosis of the ear into purulent and non-purulent otitis. The following tables show the kind and, as nearly as possible, the duration of the ear trouble:

PURULENT OTITIS.

One month or less	6 cases.
One year	3 "
Two years	5 "
Five years	1 case.
Total	15

NON-PURULENT OTITIS.

One month or less	19 cases.
Four months	1 case.
Eight months	1 "
One year	3 cases.
Two years	13 "
Three years	15 "
Four years	1 case.
Five years	2 cases.
Total	55

Considering the twenty-five cases of one month or less as acute cases, there have been but two cases of recurrence of otitis. Both of these were of the purulent variety. In one the ear remained healed eight months, when relapse followed an attack of influenza, the other was caused by whooping-cough. The results obtained in all of the cases is shown in the following table, which gives the time during which it is known no relapses have occurred:

PURULENT HEALED.

Two weeks	2 cases.
One month	4 "
Two months	1 case.
Four months	1 "
Eight months	1 "
Eleven months	1 "
Diminished otorrhoea	2 cases.
No improvement	2 "
Unrecorded	1 case.
Total	15

NON-PURULENT HEALED.

One to three months	23 cases.
Four months	1 case.
Eight months	2 cases.
Ten months	6 "
Eleven months	4 "
Twelve months	6 "
Twenty months	4 "
No improvement	7 "
Unrecorded	2 "
Total	55

The cases, I admit, are few to draw conclusions of great value from, still the long period of relief in many of the cases, whose previous history tells of frequent relapses, makes me think that much may be expected from the operation. It will be noticed that the results were somewhat better in the non-purulent than in the purulent, although the number of cases of the latter class is comparatively few. Decidedly favorable reports of the breathing were received in nearly all the cases. A few, however, had obstinate nasal catarrh, which made breathing still difficult. The results certainly show the benefit to be derived from the operation, and also gives us ground to believe that the patients will continue free from relapse.

APPENDICITIS: OPERATION, HERNIA, RECOVERY.¹

BY C. ELLERY STEDMAN, M.D., DORCHESTER.

J. P., aged nineteen, for many years was an undersized boy, but latterly had begun to grow, and was in good health. In June, 1882, he had an attack of appendicitis, for which I attended him. His symptoms were severe, and I had the benefit of Dr. Edes's opinion in consultation. I do not remember that at that time there was any question of operation. He made a good recovery in three weeks.

He was in a store in the city, when, on Saturday the 2d of February, 1889, he was seized with abdominal pain in the morning, and went to bed with it in the evening. Domestic remedies not availling, I was called in the afternoon of the 4th. He was sure he had had no chill. There was severe pain in the right iliac fossa, where slight dulness could be felt. There had been no dejection for two days, and to-day he vomited. Examination by rectum revealed a swelling, slight and soft, which could just be reached by the finger. His temperature was 102° and his pulse 104. Under treatment, the next three days the temperature retreated to 98 and 99°, and the pulse to 92 and 72, both generally less in the evening than in the morning; but the pain and vomiting increased. There was no movement of the bowels; the belly grew more swollen and tympanitic, and the countenance became pinched and anxious. These symptoms made me ask for a consultation. Accordingly, Drs. Fitz and Bolles saw him on Thursday, the fifth day of his illness. Then no sharply defined sensitive spot could be made out. Rectal examination gave pain, and a doughy sensation high up.

The next day there was no decided change; and the consultants agreeing with me on the necessity of operation, it was proceeded with on the seventh day (February 9th).

The treatment had been hot fomentations, and twenty drops of elixir of opium every three hours; when called for, as much milk and lime-water as he could take without nausea.

On the seventh day, after etherization, a sense of circumscribed resistance could be felt per rectum at the brim of the pelvis—none elsewhere. The account of the operation kindly furnished by Dr. Bolles is appended.

"The abdomen was moderately swollen and tender, especially tender in the lower part. There was no induration to be felt in the right iliac region, and not much more tenderness than in the hypogastrium, for instance. There was a little rather doubtful increase of dulness above Poupart's ligament on this side. Through the rectum a soft elastic tumor, that felt like a distended portion of intestine, was discovered, also a little to the right of the promontory of the sacrum.

"An oblique incision, four inches or more in length, was made an inch above the right Poupart's ligament and a little further towards the side. It was continued through the muscles, and down to, but not through the peritoneum. Then lifting the peritoneum from the psoas muscle, abscess or induration was sought for without success. After this it seemed best to explore the mass that was felt through the rectum; and without opening the peritoneum it was separated by the fingers from the muscles and great vessels until an opening over the brim of the pelvis finally reached it: an exploring needle and aspiration showed it was what it appeared to be—merely a coil of distended bowel—and that course was abandoned. Then I returned to the supposed site of the appendix, and scratching through the softest part of the peritoneum exposed, broke into a cavity containing a tablespoonful of stinking, shreddy liquid, and the swollen, ruptured appendix. The abscess wall was formed by the adhering surfaces of several coils of intestine, and as they were covered by only very recent lymph not much stronger than fresh curd, I did not dare to manipulate them much nor try to remove the sloughing appendix. So I washed the cavity and entire cut very thoroughly, put in two drainage-tubes, one into the abscess and one into the deep exploration, and sewed the skin and muscles together excepting where the tubes projected."

The patient seemed little relieved by the operation, and was very restless, but the temperature did not rise higher than 101°, and the pulse kept good. The pain and tympany continued; there was no movement of the bowels; milk, opium, and whiskey were given by enema.

The next (tenth) day, he was restless and delirious at times; there was no dejection; and the alimentation and medication by rectum was continued. The highest temperature was 101.6°.

It would be tedious to carry out the daily record. Emaciation became extreme; pain, delirium and enormous distention of the abdomen increased. The discharge was considerable at first, then decreased till the carbolized douches through the tubes returned clear. The stitches promised to hold well, but the wound grew sloughy, and one stitch after another gave way. Then there presented in the middle of the wound a knuckle of intestine as large as a hen's egg, which looked as if it would burst. Under these conditions it seemed as if life could not hold out, and the only encouraging symptoms were the pulse and tem-

¹ Read before the Boston Society for Medical Observation, April, 1890.

perature, the former particularly not rising above 108. Three-eighths of a grain of morphia hypodermically, were needed every two or three hours to control the pain.

As if these signs were not enough, a new threat appeared on the fourteenth day in the shape of a swelling of the right parotid gland. This, however, was offset by a pulse of 98, a temperature of 100°, and the retention by the stomach of five ounces of milk. The parotitis instead of going on to suppuration, subsided and gave no real trouble.

On the fifteenth day he got, for the first time, an injection of water per rectum, without result.

On the sixteenth day he retained sixteen ounces of milk with half an ounce of brandy given by mouth, and after an enema of three quarts of water there was a fecal discharge per rectum, but also through the wound; the temperature being 99.7°.

The seventeenth day his temperature was 100.4°, and his pulse 104; besides enemas, he retained in his stomach twenty-four ounces of milk and brandy. The abdomen which had been less swollen for several days, again required puncture, and it should have been said before, that this had been repeatedly done, with great relief, sometimes twice daily, whenever excessive tympanitis demanded the operation.

On the eighteenth day alimentation by rectum was continued on account of nausea, and two and a quarter grains of morphia in the day, hypodermically, were required on account of pain.

A glycerine enema was given on the nineteenth day, and followed by six dejections. Though very restless and uncomfortable, he had no pain, and passed much flatus. He vomited again twice in the afternoon.

The next day he had a good movement of the bowels preceded by sharp pain, and complained of very severe pain twice in the night. The motions continued daily, the faeces gradually disappeared from the dressings, and the stomach growing more tractable, the diet was largely increased. The exposed gut began to adhere to the edges of the cut. A note of Dr. Bolles's remarks: "At last, when the belly collapsed after the bowels had finally emptied themselves in the natural way, I was astonished to see this bowel recede, gradually forced in by the contracting cicatrix of the healing parieties."

It was noticed on the twenty-second day that he was still delirious when first awake. Two and five-eighths grains of morphia daily are demanded to relieve pain.

On the twenty-fifth day there was fecal discharge from the wound again followed by severe pain. The next day there was great prostration; the fecal dejections became very large; bromide of sodium began to be serviceable in the room of opium; the temperature normal; the pulse 96.

On the twenty-sixth day delirium was still occasionally present, though the dietary now comprised chicken broth, toast, custards and wine.

On the twenty-ninth day he first had a chop, and the appetite became prodigious.

On the twenty-eighth day a slight amount of fecal discharge was thought to have appeared on the dressings, the gut still peering through the wound. On the next day, codein was substituted for morphia, which was yet almost daily required—with good effect.

On the thirty-fifth day there were traces of fecal matter on the dressings, and delirium persisted at times till the forty-first day.

On the forty-fifth day he sat up for the first time twenty minutes, and from this time his progress was speedy and sure. The gut had receded to its proper quarters, at first covered by a thin membrane; but this soon gained toughness, and one would never guess in looking at the long, broad scar, that the bowel had ever protruded. The cicatrix is thick and strong, and no tendency to a hernia can be perceived. The patient passed the summer in the country, and his health was firmly re-established.

The points in this case, though not new, which made me think it perhaps worthy to be reported to this Society, are:

(1) The low run of the pulse and temperature, the former never having risen higher than, on two days to 118.

(2) The marked service rendered in relieving the painful and threatening distention, by pricking the abdominal wall with the long hollow needle. Though several times fecal matter followed through the punctures, and angry pustules formed round them, nothing but great benefit followed.

(3) The length of time, sixteen days, before the obstruction or paralysis of the bowel was relieved by a dejection.

(4) The hernia, and its cure by retraction and cicatrization of the wound.

The patient was shown to the Society in perfect health. Riding, driving and boating had not impaired the firmness of the cicatrix.

Hospital Practice.

BOSTON CITY HOSPITAL.

A CASE OF COCCYODYNIA: REMOVAL OF COCCYX, RECOVERY.

SERVICE OF ARNER POST, M.D., *Visiting Surgeon.*
REPORTED BY JOEL E. GOLDTHWAIT, M.D., *House Surgeon.*

Mrs. A., a boarding-house keeper, thirty-one years of age, has had, beginning a year ago, quite constant pain in the back, running down to the "tip of the spine." The pain has increased in severity and for the past five months she has been unable to sit squarely, being obliged to rest entirely upon one buttock. Of late the pain has extended down the legs. Defecation is quite painful, and for a few weeks micturition has been very frequent. The catamenia are regular.

The patient's previous health has been good, and she is ignorant of any cause for the present symptoms. She had a slight fall eight years ago striking upon the buttock, but suffered no inconvenience from it. She has had four children, the youngest being three years of age, and, as far as can be made out, the labors were normal.

Examination revealed great tenderness in the region of the coccyx, rendering a complete examination impossible.

After treatment by rest in bed, laxatives, etc., for ten days with no improvement, the patient was etherized and a thorough examination made for the first time. The lower half of the coccyx projected inwards, toward the rectum, at right angles to its nor-

mal position, and was freely movable. Aside from this nothing abnormal was found. The operation was immediately done. An incision, three inches long, was made just back of the anus, in the cleft between the buttocks and through this the lower portion of the coccyx was removed. A fracture was found which extended transversely across the bone at the point of mobility.

The wound was irrigated with a solution of corrosive sublimate (1-3,000), and tightly closed with silk sutures. A gauze dressing moist in the corrosive solution (1-3,000) was applied.

The recovery was rapid and uneventful. The wound healed by first intention.

On the fifth day after operation the bowels moved with much less pain than formerly.

Ninth Day. — Has had more or less pain for a few days, but upon removal of the stitches this was entirely relieved.

Sixteenth Day. — Is up to-day and is able to sit squarely, a thing she has not been able to do for a long time.

Nineteenth Day. — Has been up and about the ward for several days. Defecation is regular and not painful. Micturition is much less frequent. Says she feels twenty years younger. Patient was discharged on this day.

A short time after leaving the hospital she was again married, and, so far as her sensations about the coccyx are concerned, has been well.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

ANNUAL Meeting of the Society, Monday, April 7, 1890, DR. W. INGALLS in the chair.

DR. F. L. JACK read a paper on

ADENOID GROWTHS IN THE NASO-PHARYNX; RESULTS OF THEIR REMOVAL IN SEVENTY CASES OF MIDDLE-EAR TROUBLE.¹

DR. FARLOW said: I have been very much interested in Dr. Jack's paper. It seems to me it is a very important subject. It is surprising, I think, how much can oftentimes be removed.

Dr. Farlow showed several specimens of growths which he had removed, and called attention to a pair of forceps in which the cutting part of the blade was much larger than in the forceps shown by Dr. Jack. When the soft palate is pulled forward by the palatine hook, there is plenty of room to use quite large blades.

Dr. Farlow showed a cast taken by a dentist, showing a very high palatine arch. The patient was perfectly deaf. There was no perforation of the drum, but a great deal of pain in the ear. The child was unable to go to school on account of the condition.

It is too early to predict what will be the final outcome in these cases. I have every reason to think, however, that there will be no recurrence. I don't quite agree with those who say that recurrence is always due to something left behind. After a man has done a good operation and has seen with the glass that there

is nothing of consequence left, he could not be sure that there might not be a recurrence; so that I think a man is not always to blame for a recurrence. Some children have a great tendency to the enlargement of the glands all up and down the back of the throat, as well as of the post-nasal space, and if the growth recurs one has simply to remove it again. Particularly is that the case after some of the exanthemata, and it seems to me that the exanthemata are sometimes the starting-point of these growths.

As regards removal with the finger I think that you can oftentimes get a good deal of benefit in small children where the growths are soft, but you can't always be sure that you get the growth all out.

I have two or three private patients seven or eight years of age, in whom, after the use of ordinary astringent and cleansing solutions, I have seen the growths diminish. I think it is always right to use an astringent and cleansing solution first, to see if that will not be sufficient to obviate the necessity of an operation.

DR. SPEAR said: Although I have no statistics to add to those of Dr. Jack, yet it has been my experience that in the larger number of the cases on which I have operated with the forceps and finger there has been no relapse and always an improvement, immediate and continued, except in the very rare instances in which the growths are combined with a chronic middle-ear disease of long standing. Such cases of deafness which have lasted some years are usually unimproved. I could add my experience to that of the reader that there is very little danger of relapse, and that the operation is advisable even where there is not very considerable obstruction to the breathing.

DR. LANGMUIR said: I do not think this subject has been exhausted, and I think Dr. Jack's paper is timely. One of the most important remarks in the paper is that, although there may not be nasal stenosis, still this operation may be imperative. In anterio-rhino logical times, Professor Holmes wrote a book upon "Deafness Caused by the Extension of the Faucial Tonsil behind the Soft Palate into the Region of the Eustachian Tube." He was certain that a great deal of ear-trouble which he called deafness was caused by the extension of the faucial tonsil into the region of the Eustachian orifice. When the subject of adenoid disease was studied more carefully, the investigation was not carried out with any view originally of benefiting cases of deafness or to account for cases of deafness, but it was for impeded breathing, and those of us who operated early paid no attention to the fact that the deafness was probably caused by the presence of the adenoid growth, except as we, in operating for impeded nasal respiration, found that deafness or disease of the ear which existed was frequently relieved.

It is only a few months since, at a meeting of the New York Laryngological Association, Dr. Tully called the aurists of the country to account for not paying more attention and operating more frequently in cases of adenoid disease, on account of the disease of the ear produced by the presence of these growths. Although the aurists claimed that they had not been unmindful of this cause of ear-disease, still not many facts were adduced to show that they had operated a great deal. Dr. Tully's paper was considered then a very timely paper, just as I consider Dr. Jack's to-night.

One remark of Dr. Jack struck me as eminently true, and that is, that sometimes a small amount of

¹ See page 297 of the Journal.

growth which may produce ear-trouble, and in fact may impede nasal respiration, will disappear under mild treatment. He instances the use of Dobell's solution by spray or otherwise, and I am sure that he is right about that. Sometimes, if these cases where a small amount of adenomatous growth is present are treated in a mild way very much relief is obtained, and by the next winter there is no return, so that, although I would say that the presence of deafness in a small child should always call attention to the possible presence of naso-pharyngeal adenoma, and that one ought never to be satisfied in treating disease of the ear until that adenoma is removed in some way; still, I would agree with Dr. Farlow that in a good many cases an operation, so called, may not be absolutely necessary.

With regard to permanent deafness my observation has been that in adults there is very frequently this conformation of the jaw, which would lead one to suppose that formerly there had been an adenomatous growth in the naso-pharynx; and I don't think it unlikely that the chronic disease of the ear was started at that time; the adenoma had disappeared, but the injury to the ear still remained, and the deduction from that is, that the greatest attention should be paid to children who have diseases of the ear with respect to the presence of adenoma. It is too late with the adult. The injury is done, but it may be prevented, it seems to me, if attended to early in life.

DR. FARLOW: Bearing on what Dr. Langmaid has said, I was attracted, last summer, to a young man, eighteen years of age, who had a typical mouth-breathing-mouth. I said he either has or has had trouble in his post-nasal space. His sister, who was three years older, had the same configuration. There was a child seven, and a child twelve years of age. At the request of the mother I looked at the child seven years of age. He was a typical mouth-breather, and had a large amount of adenoid disease. I looked at the other child, and while there was no real adenoid disease in the sense of a large mass, there was an irregular vault, which led me to think that there had been what appeared in the child of seven years. The jaw of the boy of whom I spoke was thoroughly deformed, so that it interfered with his looks. The sister had the same condition, though less marked. She was hard of hearing, and had a very pronounced upper jaw. I asked whether the father or mother had it, and the mother said: "I am afraid you will find it in me." Her sister had the same, and her sister who was married had a child the age of the youngest child, and that child I have operated on. I agree with Dr. Langmaid thoroughly that this configuration of the jaw was caused by the disease I saw in the younger children and removed; and I think it will not go on to the same extent in the younger children, and I also think if the older children had been operated on they would be better-looking to-day. I think it is not an uncommon disease in older people, and those who say children will outgrow it at the age of puberty make a great mistake. If we find patients seven or seventeen or older, I think we ought to investigate the jaws and the configuration of the throat, and see if there is not something left there. I have seen it in cases after the age of puberty. I operated three or four months ago on a young lady I had seen two years ago. She is now seventeen or eighteen, I think, and the growth was certainly larger

when I operated than it was two or three years before that.

DR. LANGMAID: A good deal has been said by every one who has written or spoken upon this subject about the conformation of the jaw, the high arch of the palate and the narrow jaw; but there is another deformity which, if it has been touched upon, I am not aware of it, and that is the lack of development of the nose. It will be seen that where this disease has existed a long time in an otherwise powerful boy, the nose is disproportionate in size to the rest of the bones of the face.

DR. FARLOW: The dentists sometimes say the deformities of these jaws are due to thumb-sucking. I have inquired of nearly every case since my attention was called to that fact, and in those cases there was no thumb-sucking; so that it seems that if thumb-sucking were not the only cause of the deformity.

DR. JACK: A number of the points mentioned I wanted to say something about, but I thought it would make my paper too long. I wanted to call attention to the ear. I did not feel that it was sufficient to free the nasal passages; I thought a little more should be done on the sides of the throat. I had seen a number of cases in which, after operation, there was trouble. The operation was done for the relief of the breathing.

DR. C. ELLERY STEDMAN read a paper on

A CASE OF APPENDICITIS: OPERATION, HERNIA THROUGH THE WOUND, RECOVERY.²

DR. BOLLES said: Dr. Stedman has not, in my opinion, overdrawn the after-history of the case in the least. The distension of the abdomen was enormous, almost hemispherical from the chest down to the pubes, and the tension of the skin was so great that no cicatrix of a week or two weeks old could possibly have held it. I don't think the stitches gave way so much by sloughing as by actual pulling. The part of the bowel which protruded through — I suppose it was a part of the colon or cæcum — was larger, it seems to me, than a hen's egg, and it was so far distended and thin that it was translucent, the light striking on it illuminated the interior, and little particles of fecal matter could be seen through it showing that it was almost to the point of bursting. Every day I saw it I expected that something like coughing or sneezing would happen to break it. The bowels remained torpid so long I was, in fact, almost tempted myself to puncture to relieve it. The healing I think is very remarkable. I don't think it is after all so very unusual in the history of these cases. I have seen several instances before in which there was hernia of the bowel and threat of rupture and finally, resolution and retraction of the bowel and a very good scar. I think the scar is apt to be stronger in these lateral cuts for appendicitis than in the median cuts for ovariotomy or other internal troubles.

I have two very interesting cases that have aroused a great deal of interest in my own mind in this subject, which I am not prepared to present to-night, as I wish to preserve them to report at some other time. I want to speak of one incident in the course of my first case which is brought to my mind by a remark of Dr. Stedman and that is the effect of large injections of water by the rectum. In the case to which I allude fecal matter had escaped from the wound perhaps

² See page 299 of the Journal.

five or six days, and then gradually grew less and shortly ceased entirely. For a week or ten days more there was absolutely no fecal matter from the wound, and the progress of healing seemed to be advancing in a perfectly satisfactory way. Every other day the bowels had been moved by a small enema of soap suds. On the day in question, the sixteenth day after the operation, an enema was given without effect. The nurse in attendance gave another—each time about a pint. The first had not come away, and the second producing no result, she gave a third, the amount of water used being rather indefinite. I estimated that at least two and a half quarts of water had been used at different times, all of which was retained. After the last injection there was a sudden escape of fecal matter through the opening and considerable water that had the same appearance as the soapy water of the injection. I mention this merely as an interesting incident or accident in the progress of the case. It had no effect. The fecal matter disappeared, and I think the case is well. I would simply say that while those escapes of fecal matter doubtless occur not infrequently in the convalescence of such cases, yet it would not be my order certainly, to give a large enema of two or three quarts of water. In my case it seems as if it were possible and rather probable indeed, that the water was the cause of the new opening which allowed fecal matter to escape. That being a possibility some caution should be used in moving the bowels. From that day my patient has succeeded very easily by suppositories of glycerine, or simply of cocoa butter in having a perfectly easy movement every other day.

AMERICAN ORTHOPEDIC ASSOCIATION. FOURTH ANNUAL MEETING.

THE several sessions of the Fourth Annual Meeting of the American Orthopedic Association were held at the College of Physicians, Thirteenth and Locust Streets, Philadelphia, Pa., September 16th, 17th, and 18th.

FIRST DAY.—MORNING SESSION.

THE PRESIDENT'S ADDRESS

was made by DR. DE FOREST WILLARD, of Philadelphia.

Having just returned from the International Medical Congress, held in Berlin, Dr. Willard confined his address chiefly to a narrative of his experience abroad. He told briefly of the establishing of a Section in Orthopedic Surgery in the International Congress, and its first meeting.

He thought that the appearances during the past year of "A Treatise on Orthopedic Surgery," by two members of this association, Drs. Bradford and Lovett, of Boston, marked a new era in the history of this branch of surgery. "The book will take," he said, "its place at once as the recognized index of progressive American Orthopedic Surgery."

Dr. Willard showed several new devices which he had happened upon while abroad, one a shoe for a club-foot detaining shoe, with ankle-joint made almost universal in movement by a thumb-screw and nut. Another ingenious device was an artificial knee and elbow-joint made of ivory. The ivory shafts of the respect-

ive artificial bones were intended to be driven into the medullary cavities of the proximal ends of the bones left after resection of the joints. In most of the cases experimented on with these joints a certain amount of sloughing of soft parts and bone has taken place, so that it could not be considered yet a great success.

Owing to the unavoidable absence of several members, some papers were read merely by title.

SPINAL DISTORTIONS AND THEIR TREATMENT BY THE STRAIGHTENED LEATHER JACKET.

by DR. BERNARD BARTOW, of Buffalo, N. Y., was thus read.

DR. E. H. BRADFORD, of Boston, read a paper on THE TREATMENT OF DEFORMITIES OF SPASTIC PARALYSIS.

Several interesting cases were reported in full, and from his experience he believed that the open incision and the complete division of the tendons of the shortened muscles was a therapeutic measure of great value. Hitherto surgeons had been contented with subcutaneous tenotomy; but an open incision, especially in the popliteal region and in the groin, offers the most thorough and satisfactory method for dealing with this class of cases.¹ The child is able to use the limbs far better. There are not the relapses seen after other less thorough measures. After the healing of the operation-wound, the child may be assisted by some form of light apparatus, and may be educated in the use of his muscles to greater advantage than when other methods of tenotomy are used.

A case was then reported of

TENOTOMY FOR THE RELIEF OF DEFORMITY IN A CASE OF SPASTIC HEMIPLEGIA,

by DR. ARTHUR J. GILETTE, of St. Paul, Minn., in which much relief had resulted from division of tendons.

DR. AP. MORGAN VANCE of Louisville, Ky., considered the subject of

AMPUTATION AS AN ORTHOPEDIC MEASURE.

He reported several cases in which amputation had been done for angular bony ankylosis at the knee-joint and also at the hip-joint in a case of extreme deformity. He believed that the proper application of a light, snugly-fitting artificial limb afforded more comfort and greater safety to life than the carrying about of a deformed limb which as a focus of tubercular disease, was always menacing the patient.

The medio-tarsal amputations ought to be obsolete and in place of them a clean amputation practised through the lower third of the leg. An amputation should not be done through the knee-joint, for mechanically it is contraindicated, but rather through the thigh just above the knee.

In the discussion which followed DR. JUDSON thought that the orthopedic surgeon should restrict his procedures to strictly mechanical ones—giving over to the general surgeon operative cases.

Some little difference of opinion was expressed as to the limit of the field of the orthopedist. The feeling of the majority present was that the orthopedic surgeon should combine the judgment and operative skill of the general surgeon with a knowledge of the

¹ The tendo-Achillis is divided, of course, subcutaneously, when it is found necessary.

clinical and theoretical value of truly orthopedic measures.

AFTERNOON SESSION.

DR. HENRY L. TAYLOR of New York, described his METHOD OF MAKING COUNTER-TRACTION AT THE KNEE-JOINT

in emergency and dispensary cases of acute synovitis and osteitis of the knee. He showed the apparatus which consists of two uprights on either side of the knee, extending to the middle of the thigh and leg respectively. The ordinary adhesive strips are applied from above the knee up and from below the knee down, each set ending in straps and webbing. The uprights have buckles attached at the upper and lower ends, and by buckling the webbing of the extension into these buckles over the end of the uprights, any desired amount of extension and counter-extension may be made. The side uprights may be so bent, if made of iron, or cut, if made of wood, that the pull is in the line of the deformity.

The important point that Dr. Taylor lays especial stress upon is that there shall be no twisting or rotating of the leg on the thigh, but that the pull shall be strictly to the line of the deformity, and the amount of the pull graduated to the comfort of the patient.

A bandage holds the thigh above steadily, and a bandage passed under the popliteal space steadies below. This can be applied to an ordinary plaster bandage from the middle of the thigh to the middle of the calf. Of course, the extension strips must be applied first, the webbing being pulled out over the end of the plaster case.

This addition to simple fixation in the treatment of synovitis and chronic osteitis of the knee is found in Dr. Taylor's experience to be of great value. A slight alteration in the amount of extension and counter-extension makes all the difference between perfect comfort and freedom from pain and the most intense suffering.

Exactly what happens by extension and counter-extension at the knee to the bony surfaces is not yet known. The fact that clinically it hastens recovery and relieves the patient is the one which Dr. Taylor wished especially to emphasize, together with the fact that it requires careful adjustment and readjustment to each individual case.

DR. BENJAMIN LEE, of Philadelphia, Pa., read a paper on

SACRO-ILIAC DISEASE,

reporting two cases, and advising some form of fixation of the pelvis and spine.

The papers by DRs. GIBNEY and TOWNSEND and RYAN were not read, on account of the unavoidable absence of the authors.

In the evening the members of the Association were given a reception by Dr. Willard, the President, at the Philadelphia Art Club, where many of the medical profession of Philadelphia were present.

(To be continued.)

— Dr. Jonathan Hutchinson recommends for the treatment of epistaxis the plunging of the feet and hands of the patient in water as hot as can be borne. He declares that the most rebellious cases have never resisted this mode of treatment.

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DOCTOR AND DRUGGIST.

THERE are certain callings whose followers are brought into relations of peculiar intimacy with the followers of certain other callings, so that it becomes especially desirable for the successful operation of both, that the mutual attitude should be one of cordial understanding and support. Among such correlated crafts are those of the author and the publisher, the architect and the builder, the doctor and the druggist. Regarding this relation as far as it affects the last named pair of co-laborers, a few thoughts suggest themselves.

Friction has occasionally developed between the doctor and the druggist, because of what each has regarded (rightly or wrongly) as a usurpation on the part of the other of what belongs properly to himself.

The physician has valid ground of complaint when the druggist makes a business of counter-prescribing. Of course, within certain limits, the right to advise the customer who comes, not knowing just what he wants, must be conceded. Whether we think it altogether wise or not, people will go to a drug store for diarrhoea medicines, cathartics, for cough remedies, and we cannot find much fault if the druggist helps them to what they want. But when we find druggists cultivating the title of doctor, and treating patients for all sorts of ailments, we rightly protest.

Here is a typical and recent case of mischief so arising. A man came to a doctor with a glandular swelling of the neck which he said a druggist told him was mumps, and gave him medicine accordingly. An accompanying swelling of the lips had not attracted the druggist's attention, and the man, really suffering from a labial chancre, has in perfect ignorance, been in the danger, if not in the act, of distributing syphilis among his family and nearest friends for weeks.

Nor is it quite fair, we think, for the druggist to retort a *tu quoque* to a doctor who occasionally dispenses his own medicines. For the druggist in prescribing is assuming functions for which he has had no education, while the doctor in dispensing is doing

nothing but what he can do with perfect safety to his patient, and for the latter's convenience and therefore good. Few doctors in other than rural districts probably do this to any great extent, but there is an unquestionable advantage to the patient in the doctor's leaving him outright, for instance, a few doses of morphine in quantity unknown to the patient and without the possibility of the latter's going on with the medicine by constantly refilling the prescription to an undesirable extent. In emergencies and at night the doctor should have the commoner remedies with him. Further than this, the use of triturates and other palatable and portable preparations has a sufficient warrant in convenience to patients, in accuracy of dosage important in the case of active drugs, and to some extent on the ground of lessened expense. On this latter point there is something to be said on both sides.

Not long since, one of the metropolitan dailies, in its perennial quest for a sensation, sent a reporter with two prescriptions to several druggists, and succeeded in showing a great difference in price at different stores. The lesson sought to be derived from this experience was the enormous profits of the pharmacist. But the daily paper seems to have taken no account of the skill necessary to dispense prescriptions with safety. No class of men, we think, are more ready to insist on the propriety of liberal compensation to the druggists than are doctors, for no persons better realize the responsibilities involved in the safe handling and the accurate dispensing of powerful drugs.

But while holding these views most firmly, doctors are disposed to question some features of the druggist's charges. For instance, they are a little impatient in these days of perfected machinery, when a druggist insists upon manufacturing his own pills, at a highly increased expense of time and of money to the patient. The druggist's charge is not too much for the work he does, but the doctor feels that the work is unnecessary when a better made product might have been furnished at a far less cost.

Again the doctor fails to see the equity of the system of charging so commonly practiced in the dispensing of common remedies, for the *bulk* of the prescription, without regard to the actual value of the menstrua or diluents used. An ordinary prescription is charged so much, because it is a two or a four ounce mixture, quite independently of what it contains.

The great charge for a costless menstruum is one of the arguments occasionally put forth as a reason why all dispensaries for out-door patients should furnish their own medicines at something like cost-prize to the poor, who should be the only object of their charity. It is incongruous for the doctor to be the one to give his services absolutely, while the druggist is paid his fullest charges. There is indeed a tacit understanding with some druggists that the initials "P. P." appended to a prescription by a physician shall entitle the purchaser to minimum charges, but all prescriptions issu-

ing from a hospital dispensary ought to be considered as belonging to this category, which as a matter of fact they are not.

The druggist has certain rights which the physician sometimes fails to allow him. One such undoubtedly is to sell proprietary medicines, if he chooses. A certain portion of the public will have these, and the druggist is the tradesman to whom most naturally the retail part of this business falls. We do no good and rather hurt ourselves if we attempt to discipline the druggist for doing this business. Even the soda-fountain cannot be found fault with as an adjunct to the drug-store, if it is attended by some one who is not also responsible for the prescription desk, though physicians naturally prefer those pharmacies in which prescription business is given the place of prominence, to those, whether adjuncts of dry-goods shops or otherwise, where a general "notion" business is the chief aim of the proprietor.

Again, it is probably unwise if not unfair, to adopt the habit of exacting in prescriptions the product of certain manufacturers. The manufacturers are legion, and the druggist complains that his shelves are cumbered by what are practically duplicate preparations, from rival houses, one of which is favored by one physician, another by a second. Better far to leave the selection of the maker to the dispenser, simply holding the latter responsible for the quality of the product.

How far shall the doctor allow himself to be indebted to the druggist for his stationery? in other words, how far shall he let the druggist keep him supplied with prescription blanks? The custom is common enough. Druggists lay out considerable sums in getting up tasteful and often very convenient prescription books for the doctors' use, having of course the advertisement of the firm which issues them. That it is a paying investment, or at least that they think it will prove so, is evident from the readiness with which they make the outlay. Yet the acceptance of the favor seems to put the doctor under a sort of obligation which is not altogether comfortable. He certainly makes himself in a manner responsible for the reliability of any druggist whose blanks he may so use, and if he confines himself to the blanks of any one druggist he is likely to acquire the ill-will of those whom he does not similarly favor.

Finally, doctors and druggists need mutual consideration for their possible mistakes. Jupiter sometimes nodded, and all mortals may be caught doing the same thing. Prescriber and dispenser should be a check on each other's errors. Not all doctors are good penmen, as druggists (and shall we add privately, also editors and printers?) know to their cost. The mathematics as well as the chirography of a prescription occasionally goes astray. Many a mistake has been set right, and that quietly and courteously, by the druggist, to the lasting advantage of the doctor. Let the reciprocal service, if occasion offers, be done with equal consideration.

THE DÉCOLLETÉ IN MEDICAL PRACTICE.

MISS ELIZABETH STUART PHELPS's (Mrs. Ward's) article on "The Décolleté in Modern Life" in the August number of the *Forum*, will doubtless gain the wide reading which attends any production of her pen. But her plea for social purity, needed as she may think it, and strongly put as it is, will suffer a weakening of its cogency to many by the bringing into the discussion of what she calls "the fashion of resorting to physicians of the opposite sex in cases where any sensitive woman would seek a woman's care if it could be had for the praying or the paying." This remark surely applies, if it applies at all, to childbirth, at which time a sensitive woman does doubtless crave a woman's care — and should never, if possible, be without it. But whether there shall not also be a man's care, as a skilled *accoucheur*, may at least be left to the wish of the patient. Waiving any question of the relative professional skill of the two sexes, it may happen from the mental bias of a particular patient that she feels safer to entrust herself in her time of peril to a man rather than to a woman; and, if she does, it is certainly cruel and unjust for any one to speak of the "injury wrought upon her delicacy" by such a confidence.

Again, with a vagueness which is certainly wanting in the remainder of the article, the writer, after admitting the honor of upright "physicians who happen to be men," adds: "But for young women who prefer attendance which is abhorrent to nature, to that which the progress of science has rendered practicable from woman to woman — for girls who choose the one when they can command the other — there is no condemnation too severe."

Does the author mean that medical attendance, as such, from man to woman, is abhorrent to nature? Or does she limit her anathema to such kinds of attendance as she thinks are abhorrent to nature? The former interpretation will be repudiated by the medical profession, including, we believe, women as well as men. The latter one begs the whole question of whether any aid that a suffering mortal can claim from a fellow-man is "abhorrent to nature."

Nor is it true that the "progress of science" has as yet offered a sufficient number of *competent* female physicians to attend all the wants of all female patients, or, in other words, to do three-fourths of all the medical practice of the world.

On one point we are happy to express agreement with Miss Phelps, namely, in her admission that some of the blunting of delicacy in speech which she laments, is due to the increase of popular physiological discussions. The "Brahman lady of the earlier day" had not become used to ladies physiological institutes and clubs: and partly from that reason, as well as from her innate modesty, did not indulge in "swapping symptoms" with her casual acquaintances.

Medical practice does involve seeing patients, to some extent, unclothed, mentally and morally as well as bodily; but this may be, and we feel sure generally

is, quite a different thing from the other evidences which Miss Phelps presents of the *décolleté* in modern life.

The remark attributed to the publisher of the books of an authoress — of whom Miss Phelps says that "she has written one of the most exquisite and purest love stories in the English language," — to the effect that she was not to be blamed for another and "questionable" book because "she was born *décolleté*," is quoted in this article with evident relish.

To us the quotation and the manner of making it reflect Miss Phelps's mental attitude towards the whole subject which, as we think, she has unfortunately undertaken to discuss. Apparently, instead of being born naked, as is and has been the case, Miss Phelps would have female children, at least, born with a full outfit of dress-reform clothes on, buttoned well up the neck; and if such improvement upon "abhorrent" nature has been unprovided for, let them enter a second time into the mother's womb and be born again!

"There is an indescribable expression of the eye — every fine observer knows it — which distinguishes a modest girl from a matron. Look for it in the eyes of our girls to-day!" etc.

This quotation from Miss Phelps is best left without comment. We must, however, allow ourselves to protest against the false physiological conclusion to which her investigations, more curious than wholesome, have led the writer; and to express the hope that she may have few followers in a department of research which seems to border on the prurient. We really wonder it did not occur to Miss Phelps that an "indescribable" thing of this sort had better be left out of print.

MEDICAL NOTES.

— The British Local Government Board has issued an order prohibiting the importation of rags into that country, at least until the end of the year.

— It is intimated that Pope Leo is likely soon to issue a manifesto against the use of hypnotism, which as involving a loss, even temporarily, of will-power on the part of its subject, is in his opinion, likely to cause a lapse of moral control and self-restraint.

— One "Sequah, the Prairie Flower," has lately been carrying the benefits of Western medicine to the rural districts of Ireland, and his methods of cure were ventilated before a magistrate where certain poor cripples testified to drawing a stipend from "Sequah" for being daily cured of their maladies. One said that that distinguished medicine-man from the far West was in the habit of renting cripples, who appeared amongst the crowd, were duly "hoosched" up, rubbed and cured, and got two shillings for every day afterwards during the visit of the apostle of healing, on the strict condition that they carried no stick, and walked with carriage erect, so as to do credit to the "Prairie Flower." If they absented themselves for a day from the show, they received an immediate post-card requiring their attendance.

— Two doctors have organized, at Chicago, according to a western contemporary, an institution to be known as the "Railway Brotherhood Hospital," for the care of railway employees and their families during sickness or accident. Claim for patronage is based upon the statement that this enterprise is for the benefit of the railroad men. The reasons for the establishment of this charity are as follows:

"(1) The railroad surgeon is sent to the case to protect the interests of the company and to obtain the company's release for a nominal sum. Advantage is taken by the railroad surgeon of the helpless and shocked condition of the patient's nervous system to induce him to sign a paper releasing the company from all claims for damages by the payment of a nominal sum.

"(2) As a larger fee is obtained by amputating than saving a limb, the railroad surgeon embraces the slightest pretext for an operation, in a case that greater care and proper treatment might save the limb in whole or in part.

"(3) In the proposed 'Brotherhood Hospital' all this will be changed. The knife and the saw will only be used when all other measures fail."

Railroad men are invited to classify themselves into three classes, of which a man in No. 1 pays \$16 a year for the right (shareable by any of his family) to eight weeks' treatment; No. 2 pays \$12 for a possible six weeks' treatment; No. 3 pays \$10, equivalent not stated.

— Dr. Guido Baccelli, President of the Accademia Medica of Rome, and Professor of Clinical Medicine at the Sapienza, as we learn from a foreign exchange, took the chair at a recent meeting of the Società per il Bene Economico di Roma, to consider the means of ensuring the success of the International Medical Congress to be held three years hence in the Eternal City. Among the adjuncts to that Congress it was decided to form an International Exposition of Hygiene in connection with the Sanitary Department of the programme, and, with that object, to appeal to all the leading industrial and professional centres throughout the peninsula to contribute their best and latest additions to the "Armamentarium Hygienicum," so as to place Italy at as great an advantage as possible in the inevitable contrast between her own sanitary work and that of the other powers represented on the occasion. Florence, which has hitherto led the van in hygienic progress in Italy, has already promised her energetic coöperation; and other cities, like Turin and Milan, are expected to do likewise. Concurrently with the Medical Congress, an International Exposition of the Industries of All Nations is also being organized, so that Rome will be the busy scene of quite a gathering of the nations, on a scale she has not yet known since she ceased to be mistress of the world. The early summer months, May or the beginning of June, or the early autumn months, the latter half of September or the beginning of October, are likely to be those selected for the Medical Congress

— all danger of malaria at either time being improbable.

NEW ENGLAND.

— The medical staff of the Elliot Hospital in Manchester, N. H., have resigned on account of certain differences of opinion regarding the rules of the hospital.

— In a recent trial for manslaughter at Providence the jury brought in a verdict of "not guilty." During a fit of exasperation about the 25th of September, 1889, one Blanchard seized a stick of four-foot cord-wood, and struck one Andrews over the head. The latter died on the 5th of October. The defence claimed that the treatment extended the wounded man by his physician of Woonsocket, was incompetent, in that he did not perform as much cutting away of the parts of the skull that had lost their vitality as he should, and that he removed the antiseptic bandages too soon.

NEW YORK.

— The Tenement-house Summer Corps of Physicians, acting under the direction of the Board of Health, has made its report of the work accomplished during the season just past, through Dr. Moreau Morris, who had charge of this service. The report states that 40,364 tenement-houses have been visited during the eight weeks ending August 30th; which visits included calls upon 321,012 families. Among these 16,501 sick persons were treated. As there are only about 37,000 tenement-houses in the city limits, some of them were, of course, visited more than once, and the total number of visits was about 5,000 more than in the summer of 1889.

— President Wilson of the Board of Health has sent a letter to Mayor Grant in answer to one recently addressed to him by the Mayor in reference to the census figures of the city. In his letter Mr. Wilson encloses elaborate schedules on the death-rate of the city of New York, and the total number of deaths in all the years since 1879, as well as all estimates of the population that have been made by the Health Department between 1879 and 1890. From these tables he makes the following deductions, which go to show the justice of the demand which has been made for a revision of the figures arrived at in the recent Government census:

— Between the months of March and December in the year 1888, the Health Department, through its sanitary police, took a census of the population of New York living in tenement-houses. Under the law of 1887 a tenement-house is one occupied by three or more families living separately, and although this census did not include the better class of apartment-houses, it practically included all that are constantly under the supervision of the Board of Health. It furnished by street and number the population of each house, classifying the inmates as five years old and more, and under five years of age. The result of this census was as follows:

" Number of tenement-houses, 32,390; number of families, 237,972; population, 1,093,701, or, an average of 33.76 to each house.

" Between the months of January and July of the present year, a careful inspection of all the tenement-houses (the number at that time being 37,316) was made. Taking the estimate of 1888 of the average number of people in each house, there should have been on the first day of July, 1890, in tenement-houses, 1,259,788. The estimate of the population in lodging-houses is 12,000; under the control of the commissioners of charities, public institutions, etc., based upon Dr. Tracy's report, there are 23,556; showing in all 1,295,344. The report of the United States census taken in June, 1890, shows a population for the city of 1,513,501; from which should be taken, as above, 1,295,344, leaving only 218,157 persons living in hotels, private houses and first class apartments.

" The Bureau of Vital Statistics of the Health Department, estimated the population on the first day of July to be 1,622,018, or 108,514 more than that contained in the census enumeration just announced. If the census figures are correct, it increases the death-rate of the city for the year 1889 from 25.19 to 26.76, and will make it necessary for the Health Department to readjust the rate each year since the last census, in 1880. On the 15th and 16th of September, 1890, a careful enumeration by the sanitary officers of this department was made of the actual residents of the Second Ward — taking the street, number of houses, the names of residents — resulting in a total census of 1,196. The United States census shows in the Second Ward 922, the discrepancy being 274 persons, or an error of 29.71 per cent. In view of the facts presented in the enclosed reports, and the results of the enumeration just taken by the Health Department of the actual residents of the Second Ward, the Commissioners of Health, at a meeting held this Tuesday, September 16, adopted a resolution asking that means be taken for a recount of the population."

After receiving the letter the Mayor had a personal conference with President Wilson, and on the following day he sent to the Police Commissioners copies of the tabulated statements of the Board of Health, showing the inaccuracy of the recent census, accompanied by a letter in which he stated that the demand for a recount by the local authorities was of so general a nature, that he felt it to be his duty to have such a recount made. With the assistance of the police, he said, an accurate enumeration could be made, with only nominal expense to the public. He therefore requested the Police Board to detail a sufficient number of policemen to co-operate with him in preparing a complete enumeration, compiled so as to show the name, sex and residence of each inhabitant of the city, and whether adult or minor.

—George Kopp, a lineman of the United States Electric Light Company was killed on the night of September 15th, while handling an electric light wire that was supposed to be "dead" at the corner of 35th

Street and Broadway. It is felt that if the Board of Electrical Control were really efficient, such accidents could no longer be possible, and the Mayor has promptly called upon the Board for an immediate report in regard to the occurrence.

— The third annual meeting of the Association of Trustees and Superintendents of the New York State Hospital for the Insane was held at Middletown, September 17th. The sessions were held in the newly completed chapel of the Middletown Hospital, with Mr. Grenell Burt, President of the Board of Trustees of the Institution, in the chair. At the opening session an address was delivered by Medical Superintendent Talcott on "The Hospital Idea as Applied to the Treatment of the Insane," which advocated the making of insane asylums hospitals in the broadest sense, to which all appropriate cases could obtain early and easy admission, and where they could receive the advantages of the most scientific treatment, careful nursing, and perfect sanitary conditions. It was followed by a general discussion, and Trustee George H. Decker, of the Middletown Hospital, then read a paper on "Hospital Boards of Trustees; Their Functions and Responsibilities." The evening session was principally taken up with exercises dedicatory of the chapel in which the meeting was held.

Miscellany.

THE REIGN OF GOOD QUEEN BESS.

DR. B. W. RICHARDSON, in his recently published abridgement of "The Health of Nations," the great work of the late Sir Edwin Chadwick, in a chapter under the heading "Progressive Health," gives a comparison of mortality in the Elizabethan and Victorian eras:

" According to John Graunt's reports, from the parish registers, the condition of the whole city of London, in the time of Queen Elizabeth, was very much that of a 'slum.' The death-rate was in fact, that of a slum, it was more than 40 per thousand, but now, under some advance towards unity and centralization, it is about 20 per thousand, still including upwards of one-third of preventable deaths. The death-rate then largely exceeded the birth-rate, while now the reverse is the case. The death-rate of the children under five years was then one-third, or 33 per 100. It is now 27 per 100, and grievously too heavy. The deaths from old age, or the age then called old, of seventy, were 7 per cent, they are now sadly too low, but even in the city proper they are 18 per cent. As to personal security, John Graunt observes that not more than one in two thousand was then murdered annually, which he ascribes to good local government. At the same rate now murders in the whole of the metropolis should amount to no less than 2,500 annually, whereas they actually amount to an average of no more than 12 for the whole five millions of population — a population which approaches to that of the whole kingdom of England and Wales in the time of Elizabeth."

A NEW AND RAPID TEST FOR SUGAR.

The "Austrian Correspondent" of the *Medical Press*, July 26th, reports a simple and ingenious test for saccharine in urine, by Dr. Becker of Cairo, which was brought before the Surgical Society of Vienna at a recent sitting, by Professor Nothnagel. Ordinary visiting cards contain a considerable quantity of potash. Such a card is dipped with a solution of oxide of copper and dried. Sulphate of copper is then to be seen on the paper in minute crystals. Paper so prepared can be carried in the pocket. When urine has to be tested, point of wood — match end — is dipped into it, and two or three strokes are made with it on the prepared paper. The paper is then passed two or three times over a lamp, and immediately the marks scored will take on a more or less distinct brown color if sugar be present. Normal urine does not cause any change if marked on the paper in the way described, and it is a useful way of confirming the proof, to test a sample of urine known to be free from sugar at the same time as a counter-test.

A CASE OF HEMI-GLOSSITIS PHLEGMONOSA.

CASES of suppurative glossitis are not very uncommon, but the confinement of the affection to one-half of the organ is quite rare. A case of this kind is reported by Dr. Charles H. Knight, in the *Medical Record* for August 30.

It seems to have been a case of what has been called by Craigie 'lingual quinsy,' in other words, an acute inflammation involving the base of the tongue as well as the tonsil. The patient was a boy, fourteen years of age, evidently very poor, who came to the clinic at the Post-Graduate Medical School, June 14, 1890. He could hardly speak intelligibly, but it was learned that he had had "sore throat," gradually getting worse, for four days. He felt chilly, but had had no well-marked chill. Odynphagia prevented him from eating, even the attempt to swallow fluids being very painful. Salivation was extreme. The gums were red, swollen and sensitive, inclined to bleed, and along their dental margin there was a line of adherent secretion, almost like pseudo-membrane. The jaws could barely be closed without biting the tongue, the border of which was deeply indented and eroded. The tongue was absolutely fixed; it could not be protruded, nor could its tip be raised. Its dorsum was covered by a thick 'fur.' The odor of the breath was almost intolerable. Buccal temperature was 101° F. The left half of the tongue was not affected. The right side was much thickened, was very hard and resistant, and on passing the finger well back to the base, a point of extreme sensitiveness was found. Fluctuation could not be detected. It was difficult to explore the oropharynx, but both tonsils were seen to be large and inflamed, and the whole faucial region was very red; but there was no indication of abscess.

Another striking feature of the case was the extraordinary submental swelling. The tissues from the point of the chin to the hyoid were tense, brawny, very sensitive, and swollen. In the expectation that the tongue might need to be scarified, the boy was sent to the Manhattan Eye and Ear Hospital, ordered a calomel purge, the external application of ice-bags, and the use of a cold carbolized mouth-wash. The

next day the symptoms were somewhat worse, and for the cold treatment, hot flaxseed poultices and frequent irrigation of the mouth with hot water were substituted. On the visit the following afternoon, it was found that the abscess had ruptured during the morning. It was impossible to estimate the quantity of pus discharged, but it was sufficient to saturate the pillow on which the patient lay. All the symptoms were almost immediately relieved. The swelling beneath the jaw had disappeared; the tongue was still sensitive and stiff, but to a much less degree. The patient could speak more distinctly, and was anxious to try to eat something. From this time he steadily improved, and on the seventh day he left the hospital.

"The point of rupture of this abscess could not be exactly determined, in this respect differing from a similar case reported by the author five years ago. In the latter case the opening was found, and a bent probe could be made to enter the abscess cavity."

ECZEMA FROM THE USE OF CREOLIN.

QUITE a number of cases, according to the *Therapeutic Gazette*, have recently been reported in which more or less unfavorable results have followed the employment of creolin, in the majority of cases the effects being attributable to the phenic acid and its derivatives in this proprietary remedy. In the *Gazette Médicale de Paris*, No. 29, 1890, a report is published of a case observed by M. Borehmeyer of a child, two and one-half years of age, whose finger was crushed between cog-wheels, by which a severely-contused wound was produced, which was treated by applications of a one and a half per cent. solution of creolin. On the fourth day the finger was covered with vesicles, both small and large, which ruptured spontaneously, giving issue to a yellowish liquid. The eruption soon disappeared from the injured hand, and, on the removal of the application, a cure was rapidly produced, though the eruption again returned on renewed application of creolin. So also Dr. Wackez publishes an account of seventeen different surgical cases treated by creolin. In ten of these, union by first intention occurred; in seven the creolin produced eczema, erythema, and vesicular eruptions, and desquamation of the skin in large patches; at the same time the patients had more or less severe constitutional disturbance, and an examination of urine showed that these poisonous effects were attributable to the presence of phenol. It would seem, however, that children are especially susceptible to the deleterious effects of phenol and its derivatives, and hence are more readily influenced by creolin.

Correspondence.

[From a Special Correspondent.]

THE BERLIN INTERNATIONAL MEDICAL CONGRESS.

SECTION OF NEUROLOGY.

BERLIN, August, 1890.

MR. EDITOR:—The Tenth International Congress was really opened by the Neurological Section, which, with commendable but uncomfortable zeal, held most of its sessions at an early hour in the morning. Therefore, on

Monday, before the crowd had gathered in the Circus Renz, before Virchow had pronounced the Tenth Congress opened, and before Bacelli had shown that neither the Latin tongue nor the Latin eloquence was dead in Italy, the Neurological Section had met, organized, listened to papers, and adjourned. Jolly, of Strasburg, who comes to Berlin to fill the chair left vacant by Westphal's death, was elected chairman, and, among the many honorary chairmen, Meynert, Hitzig, Erb and Mierzejewski occupied the chair during subsequent sessions. But two papers were read, the most important being by Minor, of Moscow, on syringomyelia and hematomyelia. Many traumatic cases, of rapid onset, present symptoms similar to those of syringomyelia (thermanesthesia, analgesia, atrophic paralysis), but the paralysis rapidly disappears, leaving only the sensory disturbances. The cases are often confused with syringomyelia; but the rapid onset and history of trauma indicate hemorrhage rather than gliomatosis. A beautiful specimen of central hemorrhage was shown. Remak contended that such cases presented the symptoms of Brown-Séquard's paralysis rather than those of syringomyelia.

Horsley bore away the honors of the day on Tuesday, and, in fact, to him belong the chief honors of the session. He spoke briefly on the surgery of the central nervous system, supplementing his remarks with tables and photographs. He reported forty-three cases of trephining for various cerebral affections, with ten deaths. His counsel, although not new to those who have followed his work closely, was certainly startling to many of those present. He advised trephining in every case of fracture of the skull, in obstinate localized headache, in cases of inaccessible tumors, or tumors of uncertain location to relieve the pressure and headache; in septic meningitis he was still in doubt. In cerebral hemorrhage, if seen early, the carotid should be tied. Eighteen cases of trephining the vertebrae were reported, with only one death. The benefits from this operation, however, were less marked. In fracture the improvement had not been very great, but some cases had been benefited. In tumor the operation was indicated. In caries the benefit was still questionable, although he had had some tolerably successful cases, one of them, which I saw in London, being a girl completely paraplegic, who, after the operation, was able to walk a little. In the discussion that followed, Pescarolo, of Turin, reported the successful removal of a tumor of the spinal dura, Dunin, of Warsaw, reported the removal of a cerebral tumor, and Oppenheim reported the removal of a cyst in a case of cerebral infantile paralysis, and also the continued improvement of his patient (a case already reported) from whom a cerebral tumor had been removed. Three months after the operation, the woman was successfully delivered of a healthy child. Erb held a very conservative position with regard to the benefits to be obtained from surgery; our knowledge of localization was still defective, and in many cases of trephining the lesion had not been found at the point supposed; our diagnosis, too, was at fault in determining the difference between hemorrhage and thrombosis, in the latter case ligature of the carotid would do no good; in spinal affections, too, the outlook was not favorable. Burkhardt followed Horsley's paper with another in the same line, reporting improvement in four out of five cases where he had trephined for mental impairment. Von Monakow, of Zurich, reported a case of hemianopsia with a lesion in the cuneus, and a case of soul-blindness with incomplete hemianopsia, when the cuneus was intact but the angular gyrus was affected. The elaborate study of cases of periodic insanity by Magnan deserves a word, but the interesting and graphic charts were a most important addition, showing, at a glance, the periods of excitement and depression in cases of twenty years' duration.

The session of Wednesday proved, beyond a doubt, that the neurological brain is superior to every variety of Katzenjammer, even that which was offered at the Berlin Rathaus. Promptly at half-past eight, on Wednesday, the session opened, with uniminished vigor and attendance. On account of the general session the meeting was brief,

the paper of chief interest being the report by Horsley and Beever of their experiments on the cortex of the orang-outang, demonstrating the site for the representations of the various movements, which differ somewhat from those of the monkey, especially in that there is no march of movement from one segment of a limb to the other. They reported also the results of their experiments on stimulating the internal capsule in the monkey, showing that the various movements represented in the cortex have a similar representation in the fibres of the capsule.

In the afternoon, the Neurological Section joined with the Sections in Laryngology and Physiology, and before the three sections Horsley and Semon demonstrated their experiments on the innervation of the larynx. The trachea of a dog was divided, and the light thrown down his mouth and through the trachea on the wall, thus projecting the shadow of the glottis. On stimulating the cortex it was thus plainly seen that the movements of the vocal cords were diminished and the cords were seen to be approximated, unilateral stimulation producing bilateral movement.

On Thursday occurred one of the most interesting and warmest discussions of the session, on the so-called traumatic neuroses. Schulze, of Bonn, opened the discussion maintaining that there was no single affection which could be termed the traumatic neurosis. Trauma produced various neuroses and psychoses. Simulation was common, and objective symptoms were rare; the limitation of the visual field and the existence of anesthesia were regarded as of slight value. Oppenheim opposed many of Schulze's conclusions. The cardiac symptoms were of distinct importance, and anesthesia and a perimetric examination of the visual field were also important, and gave valuable information. If a patient recovers, it is not to be regarded as a proof of simulation. Seeligmüller held that twenty-five per cent. of the cases were simulators, and thought it would be a good plan to have an asylum for the observation of doubtful cases. Hitzig thought exaggeration and hypochondriasis were commoner than simulation. Mendel had observed many of Oppenheim's cases and thought that simulation was not uncommon. An asylum would be an admirable school for the simulator. Thyssen upheld Charcot's views, and proposed to substitute traumatic hysteria for traumatic neurosis. Hoffmann, finally, took a more advanced view on the subject of simulation than any one else, maintaining that a third of his cases were simulators. The general opinion seemed to be that there was no one traumatic neurosis, and that simulation was more or less common, and that we had, as yet, no means of excluding it absolutely.

The session on Friday began with a discussion on the pathology of general paralysis, opened by Mendel, of Berlin. He showed a dog in which the symptoms of general paralysis had been produced by rapid rotation, and maintained the view that the primary change was in the blood-vessels. This view was supported by the presentation of specimens from the early stages of general paralysis, among others a beautiful preparation of isolated capillaries, showing the earliest changes in the vessel walls. Here again there was much discussion, several holding the opposite view, that the primary process was an atrophy of nerve-cells and fibres, and others supporting Mendel's opinion. Later in the session, Berillon read an interesting paper on hypnotism, maintaining the familiar Nancy view that hypnotism is a harmless panacea, which can cure most earthly ills, — a view which few of the men I have met in Europe seem disposed to adopt.

The closing session, on Saturday, was short and crowded. Many papers were still left on the programme, and only a few could be read, and these only in abstract and without discussion. Among the papers of which abstracts were read may be mentioned two by Americans; one, a report of the successful removal of a tumor from the pituitary center by Bremer, of St. Louis; and the other, a paper on cerebral infantile paralysis by Sachs, of New York, who reported cases with autopsies, and maintained that there was no cerebral infantile paralysis as a distinct disease, that paralysis was due to a variety of lesions in children

the same as in adults, and that there was little or no evidence in favor of Strümpell's polioencephalitis or Gower's venous thrombosis. At an early hour the session adjourned in time for the last general meeting, when the tenth session of the International Congress was declared at an end.

In other sections, too, there was much to interest the neurologist, notably in the Anatomical Section, where Turner and Waldeyer discussed the convolutions, and His spoke on the histology of the nervous system; some of the papers in the Section for Internal Medicine were also on neurological subjects, but of these I am unable to speak.

The general features of the Congress and its social aspects were also full of interest. The administration was excellent, and the stranger found everything done for him, and the fullest directions for his guidance. The weather was unfortunately at times too warm for comfort, but no cloud or rain disturbed the meeting. The exhibition was admirable, pathological specimens, medical administration, and scientific instruments occupying the chief place, and drugs and preparations being very subordinate. The hos-

pitality of Berlin, too, was something that surpasses description; the opening reception on Monday, the city banquet at the Rathhaus with its inexhaustible abundance, the five crowded balls on Thursday, and the farewell reception on Saturday, at Kroll's, given by the Berlin physicians, gave the visitor such an impression of German hospitality as can never be effaced. To these must be added, as especially neurological, the dinner of the Section at the Philharmonic on Wednesday, where some two hundred neurologists dined together, and where after-dinner or rather intra-prandial speeches were made by Jolly, Lachr, Erb, Thysen, Tuke, Meynert and others, and the reception to the Section given by the Berlin Neurological Society on Friday. When Sunday came, both mind and body had been filled to repletion. It is too soon to pronounce upon the scientific value of the papers read, but from the few crumbs which I could gather, it seems safe to say that much of importance will be found in the transactions. In attendance, in interest, and in its social features, the Congress certainly was a most brilliant success.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 13, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	686	321	24.36	11.76	2.52	15.26	2.38
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,277	—	—	—	—	—	—	—
Brooklyn	832,467	267	183	22.14	12.15	3.78	17.01	1.08
St. Louis	550,000	147	53	16.32	10.20	1.38	10.20	2.72
Baltimore	500,343	164	62	23.18	10.98	1.22	9.76	7.32
Boston	447,000	194	83	20.40	10.71	2.55	13.77	2.55
Cincinnati	325,000	111	65	26.10	1.80	8.10	10.80	6.30
New Orleans	260,000	124	34	16.20	14.58	—	4.86	.81
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	125	62	27.20	13.60	3.20	12.80	5.60
Nashville	68,313	35	12	22.88	8.58	—	14.30	5.72
Charleston	60,145	31	15	32.30	6.46	—	22.61	3.23
Portland	42,000	18	6	22.22	5.55	—	16.66	—
Worcester	51,622	21	12	33.32	4.76	—	33.33	—
Lowell	73,370	38	18	28.93	15.78	2.63	18.41	5.36
Cambridge	67,026	25	11	32.00	16.00	4.00	24.00	—
Fall River	64,092	32	15	43.82	12.52	3.13	34.43	6.26
Lynn	55,200	22	14	18.20	4.55	9.11	9.11	—
Springfield	41,520	20	15	50.00	—	—	45.00	—
Lawrence	41,058	24	15	37.44	8.32	4.16	29.12	—
New Bedford	38,218	11	5	27.27	9.09	—	27.27	—
Holyoke	37,867	—	—	—	—	—	—	—
Somerville	35,516	—	—	—	—	—	—	—
Brockton	30,811	9	4	11.11	22.22	—	—	—
Salem	29,432	16	7	31.25	6.25	—	18.75	6.25
Chelsea	28,781	10	6	—	20.00	—	—	—
Haverhill	27,124	11	3	27.27	27.27	9.09	9.09	9.09
Taunton	25,544	5	2	20.00	—	—	20.00	—
Gloucester	24,904	6	1	—	33.33	—	—	—
Newton	22,011	10	2	20.00	20.00	—	20.00	—
Malden	20,615	4	2	25.00	50.00	—	25.00	—
Waltham	17,998	3	1	33.33	33.33	—	33.33	—
Fitchburg	17,304	9	5	55.55	11.11	—	44.44	11.11
Attleborough	15,954	—	—	—	—	—	—	—
Pittsfield	15,762	2	—	—	—	—	—	—
Quincy	14,114	7	6	57.12	—	—	28.56	—
Newburyport	13,915	11	2	36.36	9.09	—	18.18	9.09
Woburn	13,089	—	—	—	—	—	—	—

Deaths reported 2,298; under five years of age 1,042; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 588, consumption 260, acute lung disease 165, diarrhoeal diseases 348, diphtheria and croup 63, typhoid fever 68, malarial fever 29, whooping-cough 28, cerebro-spinal meningitis 13, measles 10, scarlet fever 5, erysipelas 2.

From malaria fever, New Orleans 13, Brooklyn 8, Baltimore 5, New York 3. From whooping-cough, New York 14, Brooklyn, Baltimore, Boston and Charleston 2 each, Nashville, Lowell, Cambridge, Brockton, Salem and Newburyport 1 each. From cerebro-spinal meningitis, Washington 6, New York and Quincy 2 each, Brooklyn, Baltimore and Cincinnati 1 each. From measles New York 7, St. Louis, Springfield and Lawrence 1

each. From scarlet fever, New York 3, St. Louis and Boston 1 each. From erysipelas New York and Washington 1 each.

In the twenty-eight greater towns of England and Wales with an aggregate population of 9,715,559, for the week ending September 6th, the death-rate was 19.0. Deaths reported 3,649: acute diseases of the respiratory organs (London) 180, diarrhoea 425, measles 83, whooping-cough 82, scarlet fever 61, fever 46, diphtheria 29.

The death-rates ranged from 12.7 in Huddersfield to 30.4 in Manchester, Birmingham 17.6, Bradford 14.1, Hull 21.9, Leeds 18.5, Leicester 20.3, Liverpool 22.2, London 17.9, Nottingham 13.6, Plymouth 15.9, Sheffield 18.3.

In Edinburgh 16.2, Glasgow 21.6, Dublin 19.2.

The meteorological record for the week ending Sept. 13, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom-		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Min.	Amount in Inches.
Saturday,														
Sept. 13, 1890.														
Sunday, 14	30.15	60.0	60.0	62.0	82	80	80.0	N.E.	E.	8	4	P.		
Monday, 15	30.18	65.0	65.0	68.0	94	87	85.0	N.	S.	1	9	C.		
Tuesday, 16	30.19	67.0	75.0	70.0	90	92	91.0	S.W.	N.E.	2	12	O.		
Wednesday, 17	30.27	58.0	60.0	57.0	91	65	78.0	N.E.	N.E.	18	12	Lt. h.		
Thursday, 18	30.39	61.0	63.0	58.0	71	84	78.0	N.E.	N.E.	10	11	O.		
Friday, 19	30.18	60.0	78.0	61.0	95	91	93.0	E.	S.	1	13	O.		
Saturday, 20	29.96	76.0	80.0	72.0	93	86	88.0	S.W.	S.	24	16	R.		
Mean for Week.														

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 13, 1890, TO SEPTEMBER 19, 1890.

By direction of the Acting Secretary of War, the following changes in the stations and duties of officers of the Medical Department are ordered: Major CHARLES L. HEIZMANN, surgeon, is relieved from duty at San Antonio, Tex., and will report in person to the commanding officer at Fort Clark, Tex., for duty at that station, to relieve Captain EDWARD B. MOSELEY, assistant surgeon, who, upon being relieved by Major Heizmann, will report in person to the commanding officer at San Antonio, Tex., for duty at that station. S. O. 211, Par. 23, A. G. O., Washington, D. C., September 9, 1890.

By direction of the Acting Secretary of War, Major JOSEPH J. CONSON, surgeon, is relieved from duty at Fort Sherman, Idaho, and will report in person to the commanding officer, Vernon Barracks, D. C., for duty at that station. S. O. 212, Par. 4, A. G. O., September 10, 1890.

By direction of the Acting Secretary of War, a board of medical officers, to consist of Colonel EDWARD P. VOLLMER, surgeon, Major GEORGE M. STERNBERG, surgeon, Major ALBERT HARTSKIN, surgeon, Captain WILLIAM E. HOPKINS, assistant surgeon, is constituted to meet, in New York City, on October 15, 1890, or as soon thereafter as practicable, for the examination of candidates for admission into the medical corps of the army. S. O. 213, Par. 8, A. G. O., Washington, D. C., September 11, 1890.

By direction of the Acting Secretary of War, leave of absence for three months, commencing about October 1, 1890, is granted Captain FRANK J. IVES, assistant surgeon, provided one of the acting assistant surgeons serving in the Department of the Missouri is constituted to duty in his stead at Fort Hall, Idaho Territory, during that time. S. O. 213, Par. 26, A. G. O., Washington, D. C., September 11, 1890.

By direction of the Acting Secretary of War, Captain JOHN J. COCHRAN, assistant surgeon, now on duty at Fort Adams, R. I., will proceed to Mount Vernon Barracks, Ala., and report in person to the commanding officer of that post for temporary duty, and on completion of the duty contemplated, he will return to his proper station. S. O. 214, Par. 2, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, the leave of absence for seven days heretofore granted Major HENRY McELDERNEY, surgeon, by the Superintendent of the United States Military Academy, is extended to November 10, 1890, on account of sickness. S. O. 214, Par. 5, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, leave of absence granted First Lieutenant WILLIAM N. SUTHER, assistant surgeon, in Special Orders No. 149, June 26, 1890, from this office, is extended fourteen days. S. O. 214, Par. 6, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, the following changes in the stations of officers of the Medical Department are ordered: Captain WILLIAM G. SPENCER, assistant surgeon, will, upon abandonment of Fort Bridger, Wyoming (his present station), report in person to the commanding officer of Fort Omaha, Nebraska, for duty at that station, relieving First Lieutenant ALFRED E. BRADLEY, assistant surgeon. Lieutenant Bradley, on being relieved by Captain Spencer, will report in person to the commanding general, Department of the Platte, for duty as attending surgeon at the headquarters of that Department. S. O. 214, Par. 16, A. G. O., Washington, D. C., September 12, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING SEPTEMBER 20, 1890.

F. W. OL'COTT, passed assistant surgeon, ordered to the U. S. S. "Alert."

SOCIETY NOTICE.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.—A stated meeting will be held at twelve o'clock on Wednesday, October 1st, in the hall of the Boston Medical Library Association, 19 Boylston Place, Boston. Active and associate members are cordially invited to attend this meeting and participate in the discussion.

THOMAS M. DURELL, Recording Secretary.

BOOKS AND PAMPHLETS RECEIVED.

Hypodermic Medication in Diseases of the Eye. By Charles J. Landy, A.M., M.D., Professor of Diseases of the Eye, Ear and Throat, in the Detroit College of Medicine, etc.

Deformity from Prominent Ears Cured by a New Method of Operating. By W. W. Keen, M.D., Professor of Surgery in the Jefferson Medical College, Philadelphia, etc. Reprint. 1889.

The Cause and Treatment of Pneumonia. J. M. G. Carter, M.D., Sc.D., Ph.D., Chairman, Waukegan. Report of the Committee on Practice of Medicine, Read before the Chicago Meeting of the Illinois State Medical Society, May 6, 1890.

Longevity and Climate. Relations of Climatic Conditions to Longevity, History, and Religion; Relations of Climate to National and Personal Habits; The Climate of California and its Effects in Relation to Longevity. By P. C. Remondino, M.D., San Diego.

Dupuyer's Finger Contraction. Operation by Removal of the Contracting Band by Open Wound. Immediate Cure without Reaction or Pain. By W. W. Keen, M.D., Professor of Surgery in the Jefferson Medical College, Philadelphia, etc. Reprint. 1889.

Two Suggestions in Surgical Technique. I. A New Method of Compressing the Subclavian Artery. II. A New Method of Ascertaining whether the Bladder is or is not Ruptured. By W. W. Keen, M.D., Professor of Surgery in the Jefferson Medical College. Reprint. 1890.

A System of Oral Surgery, being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth and Associate Parts. By James E. Garrison, A.M., M.D., D.D.S. Illustrated with numerous wood-cuts and steel plates. Fifth edition, thoroughly revised, with additions. Philadelphia: J. B. Lippincott Co.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, B.Sc., M.D., Clinical Professor of Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc. Octavo 632 pages. Cloth \$3.75, leather \$4.75. Philadelphia: Lea Brothers & Co., 706 & 708 Sansom Street.

Influenza or Epidemic Catarrhal Fever, An Historical Survey of past Epidemics in Great Britain, from 1510 to 1890. Being a new and revised edition of Annals of Influenza, by Theophilus Thompson, M.D., F.R.C.P., F.R.S. By E. Symes Thompson, M.D., F.R.C.P., Gresham, Professor of Medicine, and Consulting Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. London: Percival & Co., King Street, Covent Garden. 1890.

Original Articles.

THE TRUE POSITION OF ELECTRICITY AS A THERAPEUTIC AGENT IN MEDICINE.¹

BY MORTON PRINCE, M.D.,
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Department.

THERE IS no department of therapeutics in which romance has played so conspicuous a part—and this is saying a good deal—as in electro-therapeutics. There is a well-known professor in Vienna whose lectures, used to be described as "pleasing oriental tales." I think the same thing may be said of the tales told of the use of electricity in medicine in many of the text-books. One reads not only of wonderful cures of hitherto incurable diseases, but from the vast variety of afflictions which we are assured yield readily to the galvanic or faradic currents, or to the latest introduction, static electricity, we are impressed with the firm conviction that here at last is a panacea for every ailment of mankind, possibly rivalled only by the latest proprietary medicine advertised in the newspapers or heralded amongst the poetic gems of horse-car literature. One is instinctively reminded of the well-known advertisement of the famous Russian salve, "Warranted to cure all cuts, burns and bruises of every description; also good on bread." Not the least entertaining portions of the text in these treatises, especially those of our German *confrères* (freely borrowed by writers of other nationalities), are the diagrams which demonstrate satisfactorily the exact effect of the current, just as the pictures in mediæval theological works used to prove to the most sceptical sinner the existence of a future life by actually showing an impious heretic roasting on a gridiron. I remember as a student having been impressed by all this—that student could help it?—and to having thought that if any one failed to galvanize the spines of every case of locomotor ataxia, or multiple sclerosis, he was most negligent of his duty. A vague but strong impression was created in me by the text-books, that electricity had a sort of special affinity for nerve cells and fibres, and that under its mysterious influence the decayed ones were eliminated while brand-new ones grew in their places, like the bean stalks of Jack the Giant-killer, if not in a single night, at least with equal certainty. This was a long while ago. But the same sort of notions have been vaguely current in the profession; the reason for this being that certain authorities, like our Vienna professor, having asserted that it was all so, nobody liked to contradict them. Of late there has been a reaction against these extreme views; and, as is apt to be the case, the reactionists have tended to go too far the other way, and deny, if not all, at least the greater part of all virtue to electricity.

For these reasons it has seemed to me not inopportune to review the subject once more, and to endeavor, so far as I may be justified from my own experience, which may be fairly said to have been somewhat extensive, to show what in my opinion, is the true position which electricity should hold in medicine. An experience of ten years in hospital and private practice has convinced me that *electricity, properly used, is a valuable agent, but that it has been misused and abused, and its merits both extravagantly extolled and depre-*

ciated.

It has a place in the consulting room, or by the bedside, which can scarcely be filled by any other agent, and to one accustomed to its use, it is well-nigh indispensable. It is difficult to understand how the neurologist can do without it; but it is not a universal panacea, and like everything else its use must be governed by rational principles.

But first, before taking up electro-therapeutics, although not strictly coming under the subject matter of this paper, I shall speak of

ELECTRICITY AS A MEANS OF DIAGNOSIS.

It is well known that in certain diseases of the nervous system electricity is a most valuable aid to diagnosis. By the electrical reactions, we are able to form an idea of the nutritive condition of the nerves and muscles, and the central ganglia, and thus often be able to distinguish between peripheral and central lesions. It is of great service in recognizing the different forms of muscular atrophy and paralysis; in deciding whether an atrophy or paralysis be due to neuritis, to disease, to a myopathy, to disease of the spinal cord, or brain, or to functional disease; and not the least important is the possibility of determining if a given paralysis be fraudulent or due to actual disease. This last may often be done by testing the electrical reactions. And here it may be well to emphasize the fact that to properly test the electrical reactions there is required great care and no little technical skill. It is not to be done by merely applying the electrodes in a haphazard way, but only after using the greatest caution, making sure that they are applied at the proper points; that the current is maintained at a constant strength, and is not affected by varying resistances; that the proper sized electrodes are used; that a known strength of current is employed in every case, and so on.

This is mentioned here, because it is not rare to hear testimony accepted from the witness-stand regarding the reaction of nerves and muscles, when it is apparent from the manner in which the tests were made that nothing but valueless results could have been obtained. For such examinations proper electrical apparatus is indispensable. The apparatus ordinarily employed is entirely unsuited to give trustworthy results.

Passing now to the subject of therapeutics, I will first speak of

1. Neuralgia.

Electricity (in particular, galvanism) is justly regarded as one the most valuable remedies in the treatment of neuralgia; but we should distinguish between its effects as a *palliative* and as a *curative* agent.

As a palliative, nothing, as a rule, can be more useful, and its effects are often as astonishing to the physician as to the patient. It is no uncommon thing to see a patient who has entered the consulting-room limping with pain, or who has been unable to take off or put on his coat without difficulty, walk out as if provided with a new leg, or put on his coat as if his brachial plexus had never given him a twinge. It is often amusing to observe the look of pleasurable surprise on the faces of such patients, who sometimes regard your treatment as bordering on the miraculous. Even the severe pains from neuritis, or old-standing sciatica are greatly relieved and the patient given many hours of comfort in place of constant suffering. By chance, I am interrupted while writing this paragraph by a patient who applies for relief of pain in the upper part of his arm and in the shoulder, due to an

¹ Read at the annual meeting of the Massachusetts Medical Society June 10, 1890.

old strain. The movements of the shoulder-joints are constrained, and the extremes of movement painful. I apply electricity — this time static — and to the patient's surprise he swings his arm about, and puts on his coat for the first time without pain or difficulty, as he declares, for months. Whether the pain will return or not, I cannot say.²

Now it is this liability of neuralgia to return, that compels us to regard electricity, in many cases, as a palliative agent. It too often happens that after the pains have been relieved, completely or partially, they return again after an interval of some hours. It may be two, four or twenty-four hours. But they frequently do return; and it is because the sanguine physician too often shuts his eyes to this disappointing fact that electricity has been extravagantly over-estimated as a curative agent. But even with this limitation it is no small thing to be able to afford hours of relief, while other means are made use of to effect a cure.

In other cases, however, we are fairly entitled to attribute curative properties to this treatment. The cases are not few in which the neuralgic pain relieved each time, returns in a less and less degree after each sitting, till finally it disappears for good. It must further be borne in mind that a patient is not sent to the neurologists for electrical treatment till the family physician has exhausted his patience as well as the pharmacopia, before he relinquishes his own hand: so that, as a rule, only the most obstinate cases are entrusted to us.

In illustration of the curative influence I may cite a case just dismissed from my office. It was one following a neuritis of the brachial plexus, from which the patient suffered eight years ago. The muscles of the right upper arm and shoulder were softer and smaller than those of its fellow, and they were considerably weaker. There was no reaction of degeneration. The patient suffered from almost constant "nagging pain" in different parts of the arm, and a peculiar severe pain consequent on certain motions. It was a case of neuralgia occurring in nerves previously diseased. She was treated with galvanism, sometimes combined with faradism and static electricity. After eleven sittings, she was dismissed, free from the constant pain and certain violent paroxysms she had had following certain movements. The arm could be moved freely without pain, though it was of course comparatively weak and easily tired, and consequently ached somewhat after strong muscular action. Two months after her last visit she still remained free from the paroxysm and the arm only ached at times from over-use.

Another case, which I may cite because belonging to what, as a rule, are a more intractable class, is a case of "tic dououreux" treated within the last two months. Everybody knows how obstinate these cases are, and this one has been no exception. This patient had suffered at intervals since 1885. Each attack had lasted varying lengths of time; the first one, a month; the present attack, since September last. The pain is not constant, but comes in paroxysms, each paroxysm lasting but a few seconds; but in describing its severity, the patient says: "It is to a toothache what a red hot coal is to hot water." When he first appeared in my office he seemed to be pretty well wrecked, physically and morally. He had last

been treated by some sort of system of massage or percussion, which had greatly aggravated his condition. He was afraid to blow his nose, to open his mouth, to eat, to wash the right side of his face, or to expose himself to the slightest draught for fear of a paroxysm. He slept in a hot (80°) closed room at night, and was afraid to leave the house except in a closed carriage. He was living on liquid nourishment. His tongue was coated, breath foul, skin pale and anaemic, expression anxious, and his mental condition that of constant apprehension of suffering. "Gives the impression of being a much sicker man than the diagnosis would warrant," my notes say.

I applied twenty milliamperes of current, positive pole, to the right cheek. After the first sitting he had a return of the paroxysm on one or two occasions only. In a few days he was eating solid food, and gradually, as confidence returned, he resumed the habits of a normal individual, and could blow his nose and wash his face with impunity. After the first few sittings, wine, cod-liver oil, malt, etc., were given. He was dismissed at the end of thirteen sittings, his health in every way improved. The only thing then complained of, beside a certain apprehensiveness of future trouble, was what he called "ticks," a symptom I have not spoken of, but which he had had more or less continuously. These "ticks" were not pain, but, as far as I could make out, sort of instantaneous sensations of shocks in the trigeminal nerve (second division) as if tapped with the finger. They were not really suffering, but caused apprehension. They were felt a few times in the day. I have learned that they have since taken their departure.

This case should, perhaps, be classed as one of neuritis rather than of true neuralgia, as there was some anesthesia of the cheek. From this fact and his previous history, it is likely that he will have a recurrence³ of his difficulty. But whether so or not, he has been lifted out of a veritable slough of suffering by electricity, and I can only hope that his improved physical health may enable him to remain as he is.

This case is all the more striking because tic dououreus is not, as a rule, amenable to electrical treatment.

II. *Acute or Subacute Neuritis.*

Whether the inflammation be in a motor, sensory or mixed nerve, I am unable to endorse the opinions of those who regard electricity as having a curative power. Whatever effect is produced is, in the great majority of cases, palliative, and consists in temporary relief of pain — a relief that is often grateful. I am not, however, prepared to deny that the atrophy which often follows a neuritis may not be partially prevented by the use of electricity, and that when the nerve has recovered its functions, it will find the muscles in a better condition to respond than would have been the case if electrical stimulation had not been employed.

This brings us to

III. *The Atrophy and Paralysis following Infantile Paralysis, Joint Lesions and Disease.*

These are all benefited by electricity and the two last may be said to be cured. The results of this treatment in infantile paralysis, even when of long standing, have been in my experience so positive that I think it should be used in every case. It will be

²The patient returned, greatly improved, for one more sitting, after which he was apparently well.

³This patient still remained well when last heard from, about two months after the last sitting.

remembered that at the first onset of infantile paralysis a greater number of muscles are affected than remain permanently paralyzed or weakened; that is, that in the natural course of the disease, there is a tendency to recovery of many of the muscles originally paralyzed. This means that many spinal centres either recover from the inflammation or were only indirectly affected (oedema, pressure). But if the muscles connected with these centres are left to themselves, they recover their control power very slowly, or remain for a long time in a semi-paralyzed condition. Now the effect of electricity upon such muscles is to hasten their recovery, and perhaps produce a restoration of function which otherwise would not occur. I have repeatedly seen children who could walk or use their arms only with great difficulty, immediately begin to recover their power after electrical treatment. Those muscles (if any) which are to remain permanently paralyzed will not be affected, but the remainder will, and the gain may mean the restoration of a limb for ordinary purposes.

This is not to be understood as meaning that other adjuvant treatment should be neglected. To hope to directly influence the disease in the spinal cord is out of the question, but the distal effect of the disease is counteracted. The effect of electricity on atrophy following *joint lesions and disuse* is equally satisfactory. I believe that experience teaches that recovery is quicker and begins sooner under electricity than without it — a matter often of great consequence to a man anxious to resume his work.

IV. *Cerebral Hemiplegia (haemorrhage).*

In spite of the fact that the lesion is in the brain, the effects of electrical stimulation of the muscles is beneficial. Such patients, when improvement takes place, recover the use of their limbs (if they are to do so at all) much more rapidly than if not treated. I attribute the effect to artificial exercise of the muscles which otherwise would partially lose (from disuse) their capacity to contract, and would not respond so readily to the enfeebled nerve currents.

V. *Diphtheritic and Pressure Paralysis.*

These improve more rapidly under this treatment than without it, the latter especially. One can observe an increase in power almost day by day.

VI. *Hysteria.*

The different manifestations of hysteria such as anaesthesia, aphonia, paralysis, pain, etc., often yield readily to one or the other form of electricity. So-called *hysterical joints*, whether following an injury, or an attack of rheumatism or gout, are often rapidly cured by electricity in one form or the other. I know of nothing more satisfactory than the treatment of such affections by electricity, although I believe — a point I shall later revert to — that the effect is to be ascribed to suggestion rather than to the physical agent.

VII. *Muscular Rheumatism.*

This is usually regarded as particularly amenable to electricity, especially to the static variety. In fact this agent is considered almost a specific. But I cannot help regarding its influence as more palliative than curative. It is true that the patient is an exception who does not walk out of your office either free from pain, or greatly relieved; but it too often happens that the pain sooner or later returns. It is much, however,

to be able to make the patient more comfortable, and to enable him to attend to his business while nature cures his infirmity.

VIII. *Articular Rheumatism.*

It is claimed by some that this disease, in both the acute or chronic form, is benefited by electrical treatment. I have had no experience with the *acute* form but quite recently Lewandowski, of Vienna, has advocated very strongly the application of faradism by means of wire brushes to the acutely inflamed joints. He reports forty-two cases treated exclusively by this means. He claims that it not only relieves the pain and is a substitute for narcotics, but has a direct curative effect, lowering the fever, reducing the swelling, and hastening absorption. The current as employed by him was at first weak, and then gradually increased to a point beyond that which could be normally borne. The sittings may have to be repeated several times a day (Lewandowski has treated in all seventy-five cases). Others also claim satisfactory results. If the effect be as claimed, the action of the electricity must be as a counter-irritant, or by reflex action through the sensory nerves. It is hardly possible that the faradic current acts directly on the disease process. At any rate, if it will produce the anodyne effects claimed, it is worth using.

I have used galvanism in *chronic articular rheumatism*, and considering the obstinacy of such cases to all modes of treatment, I think it is worth trying. In many cases the patients claim that it relieves the pain, and even that the swelling and thickening of the tissues are reduced. While I can conceive this possible as the result of electrolytic action, I have never been able to satisfy myself that such is the case, in spite of the assertions of the patient. When a patient feels better he imagines a good deal. Still there are cases where the treatment is advisable. The cases which will most probably be benefited are those in which the pain and disability are out of proportion to the local changes.

IX. *Painful Neuroses.*

These, as a class, are amenable to electricity. Many of these localized pains, for which we are often puzzled to find an adequate cause, we can best reach by one or the other of the different forms of electricity. Reflex pains, unexplainable pains in the back, pains which are the result of old sprains and strains (the organic processes having long since recovered), often disappear like magic under electricity. These cases often drift into the neurologist's office as a *dernier resort*, and more frequently still into the nervous department of a hospital which is, I am afraid, looked upon by our colleagues as a reception room for all the unclassified aches and pains to which "flesh is heir to." Hither are sent from the other departments — from the surgeon, the dermatologist, the general physician, the otoriologist, the oculist, and all the other specialists — a heterogeneous collection of rebellious, atypical, unknown affections, which often defy diagnosis as well as every other mode of treatment. Some of these we can cure, some relieve, some return as they came. We have, at least, the satisfaction of knowing that others have tried their hands and cannot do any better.

X. *Neurasthenia and Allied Affections.*

In that protean disease, or rather group of diseases, neurasthenia, electricity is often a useful help, but

only a help, we can often combat many of the distressing symptoms which try our patience. It often acts as an excellent tonic, relieves nervousness and dispels insomnia. The effect in these cases is probably largely moral; nevertheless, it produces the desired effect, and enables us to so influence the bodily condition of the patient, that recovery is hastened. When a hypochondriacal element obtains, the result is particularly successful; but *it is in no sense a cure for true neurosenia*. Many of the neuroses following *la grippe* yield in a remarkable manner to electricity, and this brings us to

XI. *Psychoses and Neuroses.*

In psychoses and neuroses one of the various forms of electricity will often dispel the symptoms like magic.

Insomnia often yields at once. I have seen sleep at once ensue when persistent insomnia had been a most distressing, and sometimes the sole symptom. Before relying upon this treatment, however, we must carefully inquire into the cause of the insomnia, and satisfy ourselves that the case is likely to be benefited. When the insomnia is only a symptom of some deep rooted disease we must not expect to cure the disease itself. It is much, however, to have an agent that will replace morphine and the hypnotics.

Many of the pains and uncomfortable feelings which are ordinarily classified under this heading can be relieved, especially by the static variety of electricity.

XII. *Organic Destructive Diseases of the Spinal Cord and Brain, such as Locomotor Ataxia, Disseminated Sclerosis, Progressive Muscular Atrophy, Paralysis Agitans, etc.*

So far I have given a fairly favorable—I hope not too rose-colored—report of electricity. There remain its failures. If you take down your text-book on nervous diseases you will find no organic incurable disease of the spinal cord or brain for which electricity is not recommended, and you may think it your duty to follow the advice given therein. If you do, shirk it. Electricity is not of the slightest use in curing such diseases as locomotor ataxia, disseminated sclerosis, progressive muscular atrophy of the spinal type, myelitis or general paralysis. There is not the slightest evidence that electricity applied to the spine affects the cord favorably in such diseases, or indeed, that it affects it directly at all. It may, as a counter-irritant, relieve temporarily some of the discomforts; but the same results can be obtained in other ways, as, for example, by blisters and dry cups.

XIII. *Epilepsy, Megrin, etc.*

Electricity has been recommended for such so-called neuroses as epilepsy and megrim, applied to the brain or sympathetic system; but my experience warns me that any one who puts faith in it for such purposes, is doomed to disappointment. Nor is it of any more use to attempt to restore muscles irretrievably wasted and paralyzed as the result of old nerve injuries, and idiopathic neuritis of long-standing. When the wasting and paralysis are moderate, and where there is reason to believe that the nerve itself has become in a fair measure regenerated, we may be able to improve the condition of the muscles; but unless the function of the nerve and spinal centres have been in part restored, all attempts to reclaim the muscles will be hopeless.

The fact is, attempts have been made to do impossible things, and the consequent failure has reacted to the detriment of electro-therapeutics.

In the books, you will find cases of locomotor ataxia recorded as cured by electricity. While these cases may have been cured, there is little doubt in my mind that they were not true examples of the disease. It is now well-known that peripheral neuritis simulates locomotor ataxia in a remarkable manner, so that it is sometimes difficult to distinguish clinically between them; and before the fact was known, these cases of the nerve disease were mistaken for true locomotor ataxia. The cases of supposed cure were probably cases of neuritis, and not of disease of the cord; or it may be that a more prolonged observation would have shown a return of the symptoms.

MODE OF ACTION.

It would be beyond the limits of this paper, which is meant to be purely practical, to discuss the mode of action of electricity—a theoretical question. For practical purposes it is of no consequence *how* electricity produces the desired effect, so long as it does do so. I will content myself with merely saying that *faradism* probably works, first, by reflex action through the sensory nerves, inhibiting the pathological process in the nervous centres, upon which the local process probably depends; and secondly, by direct stimulation of nerves and muscles. It is by the reflex action that pain is probably inhibited.

Galvanism probably acts by the same modes, but very possibly produces local chemical and physical changes which aid in its therapeutic effects. It is claimed for galvanism that it has electrolytic effects. These chemical and physical changes are difficult to demonstrate, but their possibility is suggested when we bear in mind the well-known escharotic effects of strong currents on the skin, the actual dissolution of tissue when the current is condensed from a needle as an electrode, the fact that solids in solution can be made to pass through the uninjured skin by the action of the positive pole, and the fact that fluids and solids in solution are resolved into their component elements. These and other facts render it highly plausible that the therapeutic effects of galvanism may, in part, depend on the direct physical effect of the current.

But there is one other way in which the results of electrical treatment are brought about, the recognition of which is of highly practical importance. I refer to the influence of *suggestion*. There is no doubt in my mind that in a very considerable percentage of cases the relief obtained by electrical treatment, whether by faradism, galvanism or franklinism, is purely and wholly through *suggestion*. The class of cases which are more particularly influenced in this way are the psychoses and neuroses, and those afflictions where pain plays a predominant part. By taking advantage of this influence we can often cure, when every other moral influence, including drugs, has proved abortive. That such influence is suggestive, it is easy to demonstrate, and I will cite two widely differing cases as proofs.

The first was a young girl who suffered from insomnia and dislike for food. She was moderately anemic, and somewhat debilitated. She slept perfectly well so long as a current, faradic or galvanic, was passed through her head, but if this was omitted she failed to sleep. In order to test the nature of the

influence exerted, on several occasions I applied the electrodes without allowing any current to pass. The effect was the same; she slept perfectly. Her ability to eat could also be influenced in the same way, though not in the same degree. She was finally entirely cured. This patient had been sent to me for the purpose of being treated by hypnotism. I was not only not able to induce hypnosis, but suggestions made according to the hypnotic method were without effect.

The second case is equally instructive, though the evidence of the suggestive influence may not be so satisfactory to some. The patient, a man, was afflicted with mild *petit mal*, which sometimes took the form of ambulatory epilepsy. This had not, however, prevented him from carrying on his business, which he had done with great energy up to about six months previous to the time at which he came under my care. The symptoms, for the relief of which he had come to me, were great mental depression, amounting to melancholia; inability to concentrate his mind or fix his attention; insomnia; suicidal impulses; and general prostration. He had been unable to attend to any business for six months; he could not read, and took no interest in anything. He complained of a heavy weight or pressure on his head. The treatment was static electricity. The effect of the first sitting was immediate; his depression disappeared, his spirits rose, and he walked out of the office a different man. The next day the symptoms returned in a less degree, but at the end of eight sittings he was well. The epilepsy, of course, persisted.

While it is difficult to prove that the electricity had no direct physical effect in this case, to me the result seemed plainly due to suggestion. The effect produced at each sitting was just such as I predicted to him in positive terms would follow. If I told him the sense of pressure would disappear, it disappeared. If I told him his depression would be removed, his spirits returned, and so on. Hypnotic suggestion was without effect, as he proved not to be hypnotizable.

My experience has been that whenever the disability is of the nature of a psychosis, static electricity is particularly serviceable as a suggestive agent. In what proportion of cases the effect is due to suggestion, it is impossible to say. Medical electricians may not like to admit the fact of suggestive influence, but nevertheless it is, in my judgement, a fact, and it is of practical importance that it should be recognized. Because if we set clearly before our minds that in a given case we are going to effect the result in this way, we shall be more likely to succeed. I should not wish to be understood as overestimating the suggestive influence, but merely as pointing out *one of the ways* in which electricity acts in special cases, — an influence which we can often take advantage of with profit.

THE CHOICE OF KIND OF ELECTRICITY.

Thus far I have spoken of electricity in general, without particularizing the kind of electricity to be used in each affection, whether galvanism, faradism or the static variety (franklinism). In truth it is not easy to lay down hard and fast rules, and often the choice must depend upon trial in each individual case irrespective of the disease itself. When our intention is principally to stimulate the muscles, to give them tone and exercise, and prevent atrophy, the preference is to be given to faradism. In the different forms of hysteria

faradism usually works better than galvanism. If, however, as a result of degeneration of the nerves, the muscles fail to respond to faradism, as is often the case, galvanism must be used. When we wish to relieve pain and hasten absorption (?) of inflammatory products, when we hope to produce a direct effect on the nutrition of nerve and muscle, galvanism should be selected. When pain alone is the offending symptom, either galvanism or franklinism. Although faradism has its advocates in neuralgia and muscular rheumatism, static electricity is a most powerful factor. Sometimes it is well to combine two or more kinds, especially galvanism and faradism. Sometimes, especially when the diagnosis is uncertain, we can only determine by trial which will be the most beneficial. When, however, we wish to work by "suggestion," to obtain a purely moral effect, static electricity is to be preferred.

HOW TO USE ELECTRICITY.

One reason why electricity so often fails in the hands of the general practitioner is because of the inadequate apparatus made use of and the insufficient methods of application. A physician should have at his command a complete medical outfit. He should have a galvanic battery capable of giving him always 50 volts and better 100 volts, E. M. F.; a good faradic battery, and a first-class static machine. It will be well if the apparatus is so constructed that the faradic and galvanic batteries can be combined. He should be able to use these three different forms of electricity, because it is often advisable to change from one to the other, according to the effect produced. In circuit with the galvanic current should be a good rheostat, for regulating the current, and a good galvanometer.

I have frequently seen failure follow the use of electricity owing to insufficient apparatus. When a battery of low electro-motive force is used, if the resistance of the external circuit (the skin and electrodes) happens to be large, so feeble a current may pass as to be inoperative. Unless a good galvanometer is in the circuit, this fact will escape observation. The physician should have at his command a galvanic battery capable of giving twenty-five milliamperes of current and maintaining that current under the severest conditions of resistance.

The electrodes should be of varying sizes from six by three inches to one-third inch diameter, according to the effect to be produced. In connection with the subject of electro-diagnosis I spoke of this necessity of having proper apparatus. For this latter purpose a battery of high electro-motive force is particularly indispensable. It is very difficult to make a proper electrical examination of muscles and nerves without having a current which is unaffected by the variations in the resistance of skin and electrodes which ordinarily occur during the course of an electrical examination.

The next point is the proper application of the electricity. The electrodes must not be applied haphazard, but in definite predetermined ways, according to the effect desired. If the intention is to stimulate the muscles, the motor points should be carefully selected, and one electrode applied over them. If the nerves are to be stimulated, the electrode should be placed over their course and the current frequently made and broken. When pain is to be combatted it is generally best not to interrupt the constant current, but to let

it flow steadily through the painful parts. Sometimes pain can be best alleviated by strong faradism applied with a wire brush. This method is strongly recommended by some writers for facial neuralgia and acute rheumatism. It is also the best means of stimulating the sensory nerves, as in some forms of anesthesia.

When only a general tonic effect of galvanism or faradism is required, it is sufficient to paint, so to speak, all the muscles and nerves of the body with the electrodes, which should be large, making the muscles contract if possible. Passing the electrodes up and down the spine is very useful for this purpose. Sometimes as a result of nerve-degeneration, the nerves and muscles will not respond to faradism. Galvanism must then be used. As a general tonic, static electricity is often to be preferred to either.

In conclusion, I would say if you wish to obtain success in using electricity never put the battery into the hands of the patient to use himself; never entrust it to a nurse; never employ a student if you can help it. Always apply it yourself.

ELECTROLYSIS.

Before closing, I would say a few words regarding electrolysis. I cannot say anything regarding this treatment of uterine tumors, pelvic inflammations and other gynecological affections about which we have heard so much during the past few years, as I have had no experience with them.

I can, however, strongly recommend electrolysis for many affections.

Hair can be removed from the face without injuring the skin or leaving any blemish behind. As satisfactory as this operation is, I cannot believe that its possibilities are as well known as one would suppose would be the case, judging from the instances of this affection one observes in the streets.

Vascular tumors of the skin, such as cavernous angioma and naevi can be removed as well as warts and other facial blemishes.

Port wine stains can be greatly improved. I have for a long time been experimenting with the treatment of this deformity, and I hope soon to be able to report a greatly improved method of using electrolysis.

The dilated veins which often in advancing years deform the face, particularly that prominent feature, the nose, are easily and satisfactorily cured.

Goitre is one of those new growths which, it is claimed, can be cured by electrolysis. The best method is to insert the needles from both the poles into the gland, and to pass through them a powerful current of from forty to eighty milliamperes. The needles should be insulated where they pass through the skin, and moved about in different directions. The whole process should include several sittings of twenty to thirty minutes each. Dr. John Duncan reports having treated fourteen cases by this method. Three were under treatment at the time of the report. Four had been lost sight of. Of the remaining seven, six were absolutely cured. The seventh case was not changed by one operation. The treatment is one well worth trying.

For vascular tumors just referred to, such as naevi and cavernous angioma, it is by far the best method of cure that we have, particularly where it is desirable to avoid disfiguring scars. The scar left by electrolysis is white and does not contract. The operation is

bloodless, safe, and free from after-pain. The only drawback is that it may require several sittings to obtain the best results.

A CASE OF GUN-SHOT WOUND OF IMPORTANT ABDOMINAL VISCERA WITH RECOVERY.

BY J. F. URICK, Assistant-Surgeon U. S. N.

On the morning of the 24th of May, a shooting-accident occurred at the rifle-butt of one of our government stations in New England, in which a marine, acting as marker for the target-practice taking place at the time, was seriously wounded.

The unfortunate man, seeing a defect in his target after it had been run out ready for firing, had come out from behind the "bullet-proof" to remedy the defect, neglecting, however, to raise the danger-signal, and had placed himself in the line of fire just as one of his comrades fired the shot wounding him.

The severity of the wound, seen even at first sight; the gravity of the conditions in the days immediately following; and, on the other hand, the magnificent physical state of the wounded man prior to his injury, give the conditions of a fight in which Nature came out the victor, instructive, at least, in that it shows how well she can take care of serious injuries with circumstances fairly favorable.

According to the statement of the wounded man, which was verified by the character of the wounds of entrance and exit, he was facing the target and the bullet, a 45-calibre conical rifle-ball entered from behind, pierced the body about two inches to the right of the spine of the twelfth dorsal vertebra, and made its exit in the right hypochondrium, four and three-quarters inches from the median line, and passing in an oblique course between the ninth and tenth ribs.

The wounded man was immediately removed to the hospital of the station, suffering acutely, but showing little or no evidences of shock. There was very little hemorrhage.

The patient was a man of less than twenty-one years, of fine physique, and in magnificent condition. His bowels had been freely evacuated a few hours before the accident, and four hours had elapsed since food had entered his stomach.

Immediately after his entrance into the hospital an attempt was made to explore the wounds, and in the anterior wound it was possible to pass a probe a distance of three and a half inches in an oblique direction, the course following the direction of the ribs, probably due to a deflection of the bullet by them. Posteriorly there was no entrance to the probe beyond the superficial structures, the bullet having apparently split the strong, deep fascia of the lumbar region, which then had closed tightly and permanently. Without doubt the liver was wounded, and almost as surely the kidney of that side; whether the intestines, either in the superior portion of the ascending colon, or in some of the loops of the first part of the small intestine had been touched, was a matter of conjecture. The position of the wound did not exclude the stomach from a possible injury. Pulse 120, strong and full. It was not deemed expedient or advisable to make an exploratory incision, and an expectant plan of treatment was adopted. The superficial wounds were thoroughly cleansed and disinfected, and in the anterior small

pieces of gut were introduced for drainage; dressed antiseptically. The extreme pain was controlled by morphia, and digitalis and brandy were administered frequently.

At 7 p.m., pulse was 144; respiration 27; temperature 100.6° F. At this time, inability to micturate was complained of, and the patient was catheterized, the urine drawn off, showing the presence of blood in moderate amount.

On the following day the patient's condition was deemed very critical. His stomach had become irritable, and retained even stimulants poorly, but no evidence of a wound of that organ was given. There was some abdominal tenderness, though localized to the site of the wound, and he suffered severely, locating the pain over the course of the wound. Afternoon, temperature, 101.4° F.; pulse 156, weak; respiration 36, thoracic. Urine was bloody and clotted, diminished in amount. Treatment, morphia and stimulants.

There was no appreciable change on the third day, pulse 140 to 150, and very feeble, stomach still irritable, urine bloody and some abdominal tenderness. Suffering was less intense, and much less morphia was necessary.

A decided improvement was apparent on the morning of the fourth day. Pulse was of good volume and strength, 108, diminishing in frequency to 88 in the evening; temperature 102° F. The patient rested well till midnight, when an attack of severe pain in the region of the wound made it necessary to administer morphia again. Conjunctive and skin beginning to show a tinge of jaundice. Urine clearing.

He continued to do well on the fifth day, stomach of better tone, and retaining nourishment, milk and lime-water well. The wounds discharged slightly, the dressing being stained with a few drops of pus. The urine still showed the presence of some blood. Afternoon, temperature, 101° F., pulse 95 to 74. On the sixth day a rubber drainage-tube, two inches long, was introduced in the anterior wound. Patient was quiet, and rested well through the day without a spasm; was slightly jaundiced.

On the seventh day the patient rested quietly till near midnight, when he was awakened by a severe attack of pain in the epigastrium, which required morphia and counter-irritation for its relief.

On the following day there was an improvement in all the symptoms, jaundice nearly disappeared, urine only microscopically showing a trace of blood. Afternoon, temperature 100.2° F. Bowels were evacuated for the first time since the accident, by means of an enema.

Ninth day. There was another attack of epigastric pain. Diet was limited to milk.

The next day brought two attacks of paroxysmal pain, always referred to the epigastric region, and now followed by vomiting; relieved by a glass of hot water. General condition of patient good.

From this day until the twenty-third of his illness, the wounded man continued to improve, wounds healing rapidly, falling temperature, normal urine, and a disappearance of jaundice. He had an occasional attack of pain in the epigastrium, but none of any severity.

On the twenty-third day of his illness the patient had an especially severe attack of pain, referred at first to the epigastrium, and later to the dorsal region

of back; nausea and vomiting followed, and about 500 grms. of partially-clotted blood was ejected from the stomach. The hemorrhage was controlled by ice, and there was no return of the bleeding at any time after. His temperature was slightly elevated for a day or two, and he was nourished per rectum. The rectal feeding causing irritation, after two days iced milk was administered by stomach without any disturbance following, and gradually full diet was restored.

His recovery from this time was uninterrupted, and on the forty-ninth day from the date of the shooting, he was up and about the wards, the wounds closed and healed, and the patient rapidly convalescing.

REPORT ON THE RECENT PROGRESS OF SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

THE TREATMENT OF ERYSIPELAS.

LAUENSTEIN¹ and Meyer² report in favor of the "Kraske-Riedel" method. The object of this method is to limit the spread of the disease, and this is accomplished by making a barrier by multiple short superficial incisions or punctures at the border of the affected area, and subsequently using a wet (carbolic or sublimate) dressing. The dressing is changed two or three times daily. If the disease crosses the barrier at any point, fresh incisions are made. Both have modified the original method in that the scarification is made in healthy skin just beyond the disease, and not partly in infected and partly in the uninfected surface, as was done in the original method. Meyer claims that this is the most efficient and best means of controlling this affection.

Of interest in this connection is the new recommendation by Wolfer³ of treatment by compression by adhesive plaster. Four new cases are added to his previous list. His plaster ring is placed over healthy skin, and since this boundary is not always accurately determined, a second ring outside the first is employed. Wolfer claims that this method is free from the objection to the "Kraske-Riedel" method, namely, the pain from the scarification and its resulting scars, especially on the face. His (Wolfer's) method is stated to be efficient, easily adopted and without especial discomfort. H. Kröll⁴ claims to have accomplished the same result by an accurately fitted rubber bandage.

TREPHINING FOR EXTRA-DURAL HÆMORRHAGE.

In an interesting paper on the above subject, Deaver⁵ divides intra-cranial hemorrhage into four varieties:

(1) Where the blood escapes or finds its way between the inner wall of the cranium and the dura mater.

(2) Where it finds its way into the sub-dural space.

(3) Where it finds its way into the sub-arachnoid space and into the meshes of the pia mater.

(4) Where it escapes into the substance of the brain or into the ventricles.

He states that in the diagnosis of extra-dural hæmorrhage, the following points are to be observed:

The mental condition may be normal, or there may

¹ Deutsch. Med. Wochschr., 1880, xv, 11.

² Mon. Sohr., I, 551.

³ Wien. Med. Wochschr., 1889, xxxix, 23-25.

⁴ Therap. Mon. Hefte, 1889, III, 8.

⁵ Medical News, February 15, 1890, pp. 176.

be cerebral irritation. Unconsciousness, complete or incomplete, or coma.

Condition of Pupils.—Both may respond to light normally. Both may be dilated, and show no response; or one may be widely dilated and the other normal. When the dilated pupil corresponds to the injured side, it is caused, as pointed out by Hutchinson, by the pressure of a large clot, extending deeply down into the base of the skull, on the cavernous sinus, leading to fulness of the vessels, with protrusion of the eyeball and dilatation of the pupil. It is also accounted for by compression of the oculo-motor nerve, through the medium of the clot.

Respiration may be stertorous, or Cheyne-Stokes in character.

Pulse.—Little changed or rapid and feeble, depending largely on the severity of the concussion, or slow and full, depending upon the severity of the compression.

Limbs.—May present any of the following conditions: Hemiplegia, well or but little marked; monoplegia, paralysis, twitching, convulsions or spastic rigidity.

Scalp.—Presence of contusion, or bagginess due to the injury; the latter also due to leakage from within the cranium through a fissured fracture.

The stages presented by a typical case of extra-dural hemorrhage are three:

(1) Complete or partial unconsciousness, the result of the concussion or shock, caused by the fall or blow, as the case may be.

(2) Consciousness or lucidity. This stage may vary in length from a few minutes to several hours. "Is present in about one-half of the cases," says Jacobson.

Deaver has observed that a very large haemorrhage may produce compression at once; his observations being verified by post-mortem examination. Compression may also come on immediately, caused by co-existing depression of bone, injury to the brain and alcoholism.

THORACIC EMPYEMA.

Sabbotin⁶ has proposed the following operation for permanent relief in long-standing cases of empyema. His purpose is to cause the collapse of the chest wall, thus obliterating the pleural cavity. He claims a successful result. A portion of the seventh rib (six to eight centimetres) is resected as usual, the pleural cavity opened and then thoroughly irrigated. The opening is then packed to prevent infection. The fourth, fifth and sixth ribs are now exposed through a longitudinal incision along the border of the pectoralis major muscle. Without removing the periosteum, a wedge-shaped piece is removed from each of the ribs, so that it becomes movable at this point. A similar longitudinal incision is now made in the post axillary line, and at this point the same ribs are again resected as before. The incisions, which have no connection with the pleural cavity, are at once closed by sutures. The portion of the chest-wall lying between the longitudinal incisions now sinks in as healing occurs, and is fixed in this depressed position. The chest cavity is protected and the tendency to scoliosis is diminished.

LAPAROTOMY IN TUBERCULAR PERITONITIS.

Loehlein⁷ reports the results of six cases where laparotomy was performed for relief from this affec-

tion, which seems rather to corroborate the view already advanced that laparotomy accomplishes its best results in cases of primary not secondary tubercular peritonitis.

AN IMPROVED METHOD OF GASTROSTOMY.

Hahn⁸ has devised a new method of gastrostomy which differs principally from former operations in that the site selected for the formation of the gastric fistula is in the eighth intercostal space. He has during the past three years followed this method in eight cases. He claims the following advantages: A small contracted stomach is more easily reached and secured with less tension. The wound heals more surely since it is better protected from the contents of the stomach. Since the cartilages of the ribs act as compressors of the tube used in feeding, there is no trouble from leaking around the feeding-tube while *in situ*. They also prevent subsequent dilatation of the gastric fistula and no obturator is required. The technique of the procedure is as follows: The primary incision (five to six centimetres long), is parallel to the left costal arch, and distant from it one centimetre. The peritoneal cavity is incised through it to the same extent, and the eighth intercostal space sought which is easily found, since the seventh costal cartilage, by its attachment to the base of the xiphoid process, is easily recognized. A second incision is now made in the eighth intercostal space, commencing close to the junction of the eighth with the ninth costal cartilage, and extending outward and downward. The parietal peritoneum when exposed, is punctured with a pair of compression forceps, and the wound dilated to the extent of the incision by opening the blades. Then through the first incision the left thumb and forefinger directs the blades of the forceps to that portion of the stomach nearest the fundus. This portion is grasped by the forceps and dragged out through the intercostal wound till the stomach wall protrudes one centimetre beyond the skin, when it is fastened by a "serous" suture (Serosaumhüte), the other (abdominal) wound being previously covered with antiseptic gauze. The opening of the stomach can be delayed a few days till the peritoneal surfaces are united, or can be immediate. In the latter instance the suture includes serous muscular and mucus layers. The abdominal wound is then sutured. Investigations in the dissecting-room show that the diaphragm is not injured by the oblique incision outwards and downwards in the eighth intercostal space, as described, which is generally two centimetres distant from this point.

THE RESULTS OF RADICAL CURE FOR HERNIA.

Bull⁹ read before the American Surgical Association a valuable paper on the results following attempts at radical cure for hernia.

In all, he had operated upon 134 cases, 16 of them being children under fourteen years of age. In this whole series there were but three deaths. In one of the fatal cases strangulation existed at the time of operation.

In four cases the gut was wounded in separating adhesions; no bad results followed this complication. Once the vas deferens was injured and suppurative orchitis followed; the patient, however, ultimately recovered. In about half the cases primary union

⁶ V'rach., 1888, No. 45.

⁷ Deutsche Med. Wochschr., 1889, No. 32.

⁸ Centrbl. f. Chir., 1890, xvii, 11.

⁹ Medical News, May 24, 1890, p. 571.

took place. Where silk was used in the deep sutures, stitch abscesses developed without exception.

He operated on one series of cases by applying a ligature to the neck of the sac, dissecting the latter free and excising it, or if it were very large and adherent, draining it. In another series of cases he ligatured and excised the sac, and sutured the columns of the rings in close apposition. In still another series, he ligatured and excised the sac, and by a double set of sutures closed the entire inguinal canal. The results show that relapse is as prone to follow the more difficult and tedious methods, as is the case in simple ligation and excision of the sac; hence the latter operation should always be preferred. The essayist stated that no operation had yet been devised which satisfactorily stood the test of time. In the large majority of cases relapse was assured. Whether or not the wearing of a truss following operation exerted a favorable influence could not be determined. In the cases where this point had been observed, no such influence was noticed. Although there was no prospect of obtaining a radical cure by operation, the surgeon should not hesitate to use the knife under certain circumstances; since the risk to life is very slight, and there is nearly always an improvement in local conditions. The circumstances under which operation should be advised are:

- (1) In children who cannot wear a truss, or in whom no improvement follows after prolonged trial of a truss.
- (2) In adults who cannot wear a truss, or in whom the hernia is either irreducible or strangulated.

NEW OPERATIONS FOR THE RADICAL CURE OF HERNIA.

Halstead¹⁰ has recently reported in the Johns Hopkins Hospital Bulletin, five cases of hernia treated by the following method:

(1) The incision begins at the external abdominal ring, and ends one inch (less than one inch in children) to the inner side of the anterior spine of the ilium on an imaginary line drawn through the anterior superior spines of the ilia. Throughout the entire length of the incision everything superficial to the peritoneum is cut through.

(2) The vas deferens, with its vessels, is carefully isolated up to the outer termination of the incision, and held aside.

(3) The sac is opened and dissected from the tissues which envelop it.

(4) The abdominal cavity is closed by quilted sutures passed through the peritoneum one and one-half to two inches above the so-called neck of the sac.

(5) The vas deferens and its vessels are transplanted to the upper angle of the wound.

(6) Interrupted, strong silk sutures, passed so as to include everything between the skin and the peritoneum, are used to close the deeper portion of the wound, which is sewed from the crest of the pubes to the upper outer angle of the incision. The cord now lies superficial to these sutures, and emerges through the abdominal muscles about one inch to the inner side of the anterior superior spine of the ilium.

(7) The skin is united over the cord by interrupted stitches of very fine silk. These stitches do not penetrate the skin, and when tied they become buried.

They are inserted in the under side of the skin, and made to include only the deeper layers — the layers which are not occupied by sebaceous follicles. Thus infection of the sutures from organisms which may be present in the follicles is avoided.

(8) One or two small, short, gauze plugs are used as wound drains.

The immediate result in all the cases reported was good. Three of the patients were children, two adults. Sufficient time has not yet elapsed to test the ultimate results.

THE SURGICAL TREATMENT OF HEPATIC ABSCESSSES.

At the end of Mr. R. J. Godlee's¹¹ lectures on this subject he submitted the following rules for the treatment of the several varieties:

(1) Pyæmic abscesses do not call for surgical interference, or, if in rare cases one should point, it is only opened to relieve symptoms, but without hopes of doing permanent good.

(2) The same observations apply to abscesses resulting from suppurative phlebitis of the portal vein.

(3) Multiple abscesses associated with dysentery or ulceration of the bowels are very unfavorable for surgical treatment. They must, however, be opened and treated on the same lines as the single or trophical abscess, because they cannot be certainly diagnosed.

(4) Single abscess of the liver, whether trophical or not, must, if it approach the surface, be opened, the following precautions being adopted:

(a) If it present at the epigastrium, the presence of adhesions must be ascertained before incising the liver.

(b) If through the chest wall, a spot must be chosen below the normal limit of the pleura; but, if by chance either pleura or peritoneum be opened, the opening must be closed with a double row of stitches before incising the liver.

(c) Strict antiseptic precautions must be adopted throughout, either carbolic acid or some slightly soluble salt of mercury being employed for the dressings.

(d) The tube must be of large size at first, and a tube of some sort must be kept in until the discharge is reduced to a very minute quantity.

If the abscess have burst into the lung, pleura, pericardium, peritoneum, or kidney, and the position of the abscess can be clearly determined, it must be opened without delay. If the position of an abscess be only suspected, and the patient be losing ground, it is right to puncture the liver in the most likely situations, bearing in mind that, though usually quite harmless, a slight amount of risk accompanies this very trivial operation. This rule applies to cases in which the abscess has ruptured into any of the cavities enumerated above. If, on the other hand, whether the abscess has ruptured or not, there are no means of diagnosing the whereabouts of the matter, and the patient be not losing or even gaining ground, the surgeon should hold his hand for a time.

(5) Hydatids of the upper and back parts of the liver are to be treated upon the same lines; but in cases of this sort, and in those of sub-diaphragmatic abscess, it must be remembered that the diaphragm may be pushed up a very great height, thus closely simulating intra-pleural suppuration.

(6) Empyema, pericarditis, and peritonitis caused

¹⁰ Annals of Surgery, March, 1890.

¹¹ British Medical Journal, January 25, 1890.

by rupture of an hepatic abscess or hydatid must be promptly dealt with on general principles.

ARTERIAL SUTURE.

Jassinowsky (Dorpat), by means of numerous experiments on animals, has furnished some valuable data relating to the suturing of injured arteries.¹² According to his experience, primary union is possible. Hemorrhage is prevented, and does not recur. The procedure does result in thrombus formation within the vessel or aneurism of the vessel walls, as has been feared. The suture is available for recent clean-cut longitudinal wounds, for wound causing a flap, the long axis of which corresponds to the axis of the artery, and for transverse wounds which do not exceed one-half the circumference of the larger arteries. The operation can only be successful under the strictest aseptic conditions. It is easily accomplished by occluding the artery on either side of the wound. Then the artery wall is exposed at the point of suture by pushing aside the sheath. The suture penetrates only the adventitia and median coats horizontally. The suture is secured by the ordinary knot, and the ends cut short. Then, while the vessel wall is compressed and supported, the clamps are removed. The vessel, sheath, the fascia and skin are then successively united by separate sutures. Photoxylin.

THE VALUE OF THE OPERATIVE TREATMENT FOR GLANDULAR TUBERCULOSIS.

N. v. Noorden has published the results¹³ of an interesting investigation of 506 cases of glandular tuberculosis treated at the Tübingen clinic: 217 were hospital cases, 289 were treated as out-patients. All were cases where the diagnosis is reported as fixed beyond doubt. In 286 cases operative treatment was employed. In the remaining 220, a conservative method was pursued. V. Noorden succeeded in obtaining a collection of 149 cases where three years had elapsed since the operation, and found that in 93 (62.4%) no local recurrence had occurred. In the remaining 56, recurrence took place. Glands situated in localities other than those primarily affected became diseased in 7% of the cases; 28 (18%) of the 149 patients died of tuberculosis during the ensuing sixteen years, and 14 of the survivors are already phthisical.

IODOFORM IN THE TREATMENT OF TUBERCULOUS ARTHRITIS AND OSTSTITIS.

Attention is again called to the alleged power of iodoform in checking tuberculous processes in bones and joints when injected parenchymatously into the neighborhood of the diseased areas.¹⁴ The ether solution was discarded, on account of pain and occasional gangrene. A mixture of iodoform and oil (5:25) is recommended as more efficient. The mixture must be freshly prepared. Two to three cubic centimetres are injected once weekly. In case of fistula into the surrounding tissue, sublimate gauze dressings were afterwards used. Results: 109 cases, 28 operations. (Perfectly healed, 36; improved, 37; unrelieved, 12; 24 still under observation.) These statistics are Heusner's.¹⁵ It is not stated if this amount of iodoform is used in abscess cavities freshly curetted.

¹² P. Wagner Schmidt's *Jahrbücher der gesammt. Med.*, 1890, Bd. 225, p. 123.

¹³ Beitr. z. Klin. Chir., 1890, vi, 607.

¹⁴ Schmidt's *Jahrbücher der gesammt. Med.*, 1890, Bd. 225, p. 55.

¹⁵ Centbl. f. Chir., 1890, xvi, 38.

To the above, Krause¹⁶ has contributed his results with iodoform mixtures in the treatment of tubercular arthritis. After some experience he chose the following mixture as most satisfactory:

B	Pulv. iodoform. subtiliss.	.	.	.	.	.	.	50.00
Muel.	gummi Arab.	.	.	.	.	.	.	25.00
Glycerin	.	.	.	.	.	.	.	83.00
Aq. dest.	.	.	.	.	.	.	q. s. ad 500.00	

That is a 10% iodoform mixture which shows no trace of decomposition even after many weeks. He has used this only as yet in severe cases of tubercular articular disease, where recovery without operative interference was improbable. More than one-half the cases were complicated with cold abscesses. The mixture was injected into the joint in 43 cases, under strict aseptic precautions. The amount varied from 5 to 80 grammes. Passive motion and massage of the joint followed the injection, to insure a thorough distribution of the mixture throughout the joint. The injection was repeated every four weeks.

The rapid cessation of pain was quite striking. The swelling of the capsule and surrounding soft parts diminished more slowly. Suppuration in the joints and periarticular abscesses recurred several times, and only disappeared permanently after repeated injections. Krause still holds the method *sub judice*, and has not yet expressed his final opinion of the method.

OPERATION FOR THE DEFORMITY OF THE EARS.

Professor Keen,¹⁷ in the *Annals of Surgery*, January, 1890, describes a new operation which he has recently performed for the common deformity of prominent ears. The operation consisted in removing from the long axis of the posterior aspect of the auricle a long oval piece of skin, the cartilage being laid bare by the dissection. A strip of cartilage of the same length, but narrower and V-shaped on cross section, was then removed, taking great care not to cut through the skin on the opposite side. In the left ear three catgut sutures were introduced through the cartilage in addition to those in the skin. On the right side reliance was placed entirely on the sutures through the skin. The result was equally satisfactory on either side. The two operations, performed at the same time, were attended with very free bleeding, which, however, was easily controlled. The stitches were not removed until the tenth day. The result was perfectly satisfactory.

RESULTS OF THE TREATMENT OF FRACTURED PATELLA WITHOUT OPERATION.

Bull¹⁸ has made a study of this subject and has contributed a paper of considerable interest.

His paper was based upon the histories of twenty-two cases of fractured patella which had been treated without operation, and had been followed for periods varying from one year and nine months to thirteen years after the injury. There were sixteen cases of primary fracture and six of refracture; but as the latter class cannot be expected to yield such good functional results as the former, they were not considered. The results of treatment were classified under three heads, namely: (1) Functionally perfect—ten cases, in which flexion and extension of the limb have been complete and strong, the ligament firm, and little or no atrophy of thigh; (2) good—four cases, in which

¹⁶ Berlin Klin. Woch., 1889, xxvi, 49.

¹⁷ Medical News, February 15, 1890, p. 181.

¹⁸ Medical News, March 22, 1890.

flexion and extension were imperfect, but the joint was sufficiently useful to satisfy the demands of the patient's occupation, and only showing weakness after unusual exertion; and (3) bad — two cases, in which there was no power of extension, and the patients were compelled to wear supports, or to walk with a cane. Three-fourths of these patients were between the ages of twenty and forty years, and their occupations were sufficiently laborious to test the efficacy of the treatment. Bony union was obtained in one instance, and it is noted in two others that there was no appreciable separation of the fragments; while in the remaining cases the average length of the ligament was nine-tenths of an inch. This corresponds very well with the statement usually made that the length of a useful ligament varies between one-half inch and one inch. In one case the ligament was observed to shorten during a period of some years, owing to the formation of bone in the ligament.

Out of six cases of refracture, three occurred within two months after being discharged from the hospital, and in one case the lower fragment was fractured while the ligamentous union remained intact. The results in two cases out of this series were surprisingly good, and in the remaining four there was deficient extension, three having long ligaments.

Neither the age of the patient nor the character of the injury seemed to influence the result. From the first series good results were obtained in eight out of ten cases by the use of simple retentive apparatus, provided no accident endangered the newly-formed ligament. As refractures were considered accidents, they should be included with those giving a less favorable although still a very good percentage — seventy-three per cent.

If the cases were seen soon after the injury, the knee was slightly elevated, equable pressure was made by means of cotton compresses and snug bandaging, and, after an average period of five days, the limb was elevated and a gypsum bandage applied, the fragments being approximated by loops of plaster. It is possible, by proper application of a figure-of-eight bandage, not only to tilt the fragments but to separate their margins. After the effusion has subsided, there is no tendency to drawing up of the fragments. After the gypsum bandage has "set," the patient is allowed to sit up. Six or eight weeks later this bandage is removed, and a posterior splint, or the posterior half of the gypsum dressing, is bandaged to the limb during the day. At this period vigorous shampooing and the use of electricity should be begun. About the third month extension is usually good, although flexion is only possible to about forty-five degrees. The patient may now be allowed a cane, but the use of knee-caps should be discouraged, and passive motion is rarely advised. The patient is to make daily efforts to bend the knee slightly, the foot being upon the floor. There is no liability to accident by this method.

Many surgeons are still opposed to the use of plaster-of-Paris, thinking that it causes atrophy and interferes seriously with the circulation; but the use of plaster is not recommended by Dr. Bull until the swelling has subsided, and cotton is always applied underneath.

It will be seen that the total time of treatment is about six months; but the patient is confined during six weeks and allowed only moderate movement for six weeks more. The time of treatment cannot be advan-

tageously shortened. If the ligament and joint functions begin to weaken, it is advisable to resort to wiring the bone, and the operation is easier at this time than subsequently, when the fragments are more widely separated. Cases of refracture should be treated upon the expectant plan until it is apparent what the results will be.

Malgaigne's hooks have been employed both with and without antiseptic methods, and Treves speaks favorably of them; but it does not seem that there is anything gained by their use. All such measures aim to secure bony union, but they are both risky and meddlesome.

DISINFECTION OF CATGUT.

Döderlein¹⁹ (Leipzig), after some experimentation with infected catgut, asserts that it can be sterilized with certainty by soaking for twenty-four hours in an aqueous solution of sublimate (one-tenth per cent.).

Brunner²⁰ has also endeavored to find a practical method of making this material, so useful in surgery, aseptic. He has decided that the following will give the most satisfactory results: The raw gut is scrubbed with potash soap. Then directly, or after soaking one-half hour in ether, it is kept for twelve hours in a sublimate solution (aqueous, 1 to 1,000). After this bath it is kept till used in a solution consisting of sublimate (1.00), absolute alcohol (900.00), and glycerine (100.00). Immediately before using it is placed in the aqueous sublimate solution. Clinical experience has shown Brunner that gut so prepared is aseptic.

THE ACTION OF IODOFORM.

A recent investigator²¹ of this drug concludes after considerable experimental work, that iodoform, when added to a wound is usually largely in excess of any microbes, a condition under which, during experimentation, iodoform seemed to show an aseptic power. Experiments with pure cultures are conditions which do not exist in actual practice, since no fresh operation wound would ever be in a position to contain on its surface anything like a pure culture. So that practically when used clinically, iodoform is in excess of microbes present, a condition as above stated, favorable for the advantageous use of its antiseptic properties. Hence the proper use of the drug is in large quantities. Its especial value lies in its prolonged action. When used with pure cultures little or no antiseptic action was observed.

"SILK PROTECTIVE" DRAINAGE.

Fessler²² reports that strips of silk protective rendered aseptic by a 1 to 1,000 solution of sublimate, have been used at the Nussbaum Klinik during the past two years, for the drainage of all kinds of wounds, with the best results.

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¹⁹ Münch. Med. Wochenschr., xxvii, 5, 1886.

²⁰ Berliner z. Klin. Chir., 1890, vi, p. 98.

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Clinical Department.

A CASE OF CONSIDERABLE CEREBRAL HÆMORRHAGE WITHOUT SYMPTOMS.¹

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J. B., fourteen years old, a pupil of the Blind Asylum, South Boston, entered the City Hospital, April 30th. He came to the hospital on a horse-car, and walked in from the street.

According to the history given later, he had convulsions when a young child; at the age of four years, after "a sunstroke," became blind. At the age of seven, he had scarlet fever and diphtheria; but since then had been well, up to January of this year. During the time he was a pupil at the Blind Asylum, about four and a half years, he was reported to have made fair progress in his studies. Since January he had complained of its hurting him to walk, "the trouble seeming to be a lameness (rather than pain) in his legs, and he seemed comfortable when sitting; he had also complained of headaches, of the severity of which it was difficult to judge because he was so easily moved to tears. He was in bed several times, for a day or two, since January 1st, from these ailments, and twice during the time seemed so ill that he was sent home, and remained nearly two weeks each time, the last being in March. He finally went home for the spring vacation, March 28th, and was taken sick almost immediately." This was the account obtained from the Asylum.

He and his parents stated, when questioned on admission, that he began to have frontal headache towards the end of January, and had had more or less headache every day since; he had had considerable cough for a month, and night-sweats occasionally; he had lost flesh and strength during the two months previous to entrance; had no pain except the headache; he got out of breath easily when walking.

Physical examination showed that he was poorly developed, with the extremities somewhat cyanotic. The forehead was flattened, and the eyeballs were protruding; he had an idiotic expression, and the palatal arch was very high. The pupils were equal and dilated; there was no strabismus. The tongue was protruded in the median line. There was no impairment of motion or sensation. The reflexes were normal.

The area of cardiac dulness was enlarged; there was a double murmur at the base, and a presystolic and systolic murmur at the apex. There was moderate dulness over both lower backs, with fine, moist râles extending well upwards with diminishing dulness.

The urine was pale, acid, specific gravity 1.010, with large trace of albumen, and numerous hyaline, fine granular and epithelial casts. Temperature normal, pulse 120, respirations 32. No diagnosis was made, except such as was plainly indicated by the physical examination.

The next day, May 1st, the temperature rose to 103.8°; he became stupid and drowsy, though he could be easily roused, and answered questions intelligently; he passed his water in bed.

May 2d. The drowsiness had increased, though he still responded when roused, and complained of headache. There was well-marked retraction of the head, and he complained of pain on pressure over the cervical vertebrae. There were no motor or sensory disturbances; the tendon reflexes in the lower extremities were normal. He became unconscious at 8 P. M., and died an hour later.

The *autopsy*, made by Dr. W. W. Gannett, showed hemorrhage into the pia of the medulla and pons. Hemorrhage, the size of a large English walnut, into the white matter of the right hemisphere behind the fissure of Rolando, which was continued into the right lateral ventricle, and also into the third and fourth ventricles, as shown by small clots of blood. There was a softened area around the seat of the original hemorrhage, indicating an age of ten days or longer. The blood-vessels showed nothing abnormal.

The heart was enlarged in both diameters; there was acute and chronic valvular endocarditis, stenosis and insufficiency of the aortic, and stenosis of the mitral orifices. There was edema of the lungs, and cloudy swelling of the kidneys. There were also large adenoid vegetations in the naso-pharynx, as was suspected ante-mortem.

I have called this "A Case of Considerable Cerebral Haemorrhage without Symptoms," which certainly is not absolutely correct. There were the premonitory symptoms of headache and weakness in the limbs, as manifested by easy fatigue. But how far these could be regarded as prodromata of hemorrhage, with the crippled condition of the heart, and consequent changes in the lungs and kidneys, as shown both clinically and post-mortem, and without appreciable changes in the cerebral vessels, is, at least, doubtful. The seat of the hemorrhage was posterior to the motor tract. But it is still surprising that there were no symptoms from pressure. No loss of consciousness was mentioned; no motor or sensory changes were detected.

The age of the patient, fourteen years, is also of some interest. In Gintrac's table of 653 cases of cerebral hemorrhage, quoted by Gowers, 15 were between one and ten years of age, and 20 between eleven and twenty years of age.

— The President has nominated Colonel Edward P. Vollum to be Chief Medical Purveyor of the United States Army, with the rank of Colonel, vice-Colonel Baxter, promoted.

¹ Read at the Boston Society for Medical Improvement, May 26, 1890.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

G. G. SEARS, M.D., SECRETARY.

REGULAR Meeting, Monday, May 26, 1890, the President, Dr. W. L. RICHARDSON, in the chair.

DR. C. E. STEDMAN showed a

CANCEROUS LIVER.

The patient was about seventy years old; had been ill some six or eight weeks. I was called to him a fortnight ago. His symptoms were obscure. Temperature was 102°. He had sweats. He had been an invalid some time, but no diagnosis had been made, and I declined to make any on taking charge of the case. There were no physical signs. The abdomen was flat. The free edge of the liver could not be felt below the ribs, and was not touched by the disease. The diseased limit, nearly the size of the fetal head, was in the upper and back part of the liver; and its existence was not suspected by any one who attended him, including myself. He died of exhaustion. There was in the lung some evidence of old phthisical inflammation having healed, and of recent inflammation at base of right lung. There was no dropsey of any kind, no distension of the abdomen. So far as I can make out the disease was primary. We could find no evidences of cancerous disease elsewhere.

DR. M. H. RICHARDSON showed a

SMALL TUMOR OF THE UPPER JAW,

removed to-day from a young lady twenty-four years of age. It had begun three years before at the base of the second molar tooth of the upper jaw on the left side, and had followed an abrasion of the mucous membrane. Various methods had been tried for its extirpation, but none had proved lasting. There was a vascular growth between the first and second molars about as large as a walnut, filling the space between the teeth and the cheek, and also extending inwardly and involving a small portion of the mucous membrane of the roof of the mouth. It had been found necessary to remove a portion of the alveolar process, after sacrificing the three molars. The growth proved to be a round-celled sarcoma, Dr. Whitney not being able to discover any giant cells. It seemed a pity to sacrifice three teeth in the removal of a growth possessing so little malignancy as the ordinary epulis. But in these less malignant types of new-growths, as in cancer itself, the tendency of the profession is to do too little at the outset, when there is a strong probability that a thorough excision with a wide margin will be a permanent cure. We keep just ahead of the tumor at the beginning, as well as at the subsequent operations, and leave so narrow a margin that we are about certain to have a recurrence. At the next operation, for some reason—to have enough skin to cover, to avoid some vessel, or for some similar reason,—the experience is repeated, and finally we find that it is impossible to make a thorough dissection, from extensive infiltration. In no class of tumor is the advantage of a thorough dissection more apparent. I recall at least four cases of epulis, operated upon by myself during the past year, in all of which an attempt had been made to remove the growth without sacrificing the teeth, and in all there

was prompt recurrence. Thus far the thorough removal after drawing the teeth from whose base the tumor had sprung, had been effectual, and was likely to continue so. In all the cases of tumor of this kind removed at the hospital from 1878 to 1888, that I was able to follow, there had been neither recurrence nor death.

It does not follow that it will be necessary to remove the teeth in all cases. Where the growth appears on both sides of the alveolar process, at least one of the teeth, and often both, must be drawn to give free access to the periosteum. In this disease, however, the dangers of palliative delay are not great, on account of the fact that it has, in the beginning at least, only a local malignancy.

In the specimen exhibited, the growth could be seen clinging to the base of the teeth, and to the portions of bone removed. The third molar was remarkable from its having but one fang, and from its diminutive size.

DR. STEDMAN: Has Dr. Richardson ever had occasion to observe in pregnant women appearances almost identical with epulis and with malignant tumors of the jaw, which threaten badly, bleed at the touch and disappear on delivery of the child?

DR. RICHARDSON: No sir.

DR. STEDMAN: Has Dr. W. L. Richardson observed that?

DR. W. L. RICHARDSON: I have observed that in four instances. These cases caused me some anxiety at the time, but they all did well.

DR. STEDMAN: I have a patient who has a tumor resembling the description given every time she is pregnant. The first time I thought it would have to be operated on, but I put the matter off until after delivery, and it disappeared.

DR. M. H. RICHARDSON: This tumor had been growing three years in an unmarried woman.

DR. MIXTER: Dr. Richardson spoke of the necessity of giving a wide margin to these growths. I think in many cases a wider margin is given than is necessary. I have seen a great many of these cases in which not only a number of teeth were removed at the operation, but a considerable piece of the jaw, the alveolar process, was also taken out with the cutting forceps. As I understand it, these growths spring from and are confined to the periosteum entirely at first, and it is absolutely unnecessary if you can peal off the periosteum to take off any of the bone. That applies to the early stage of the disease.

Another point about clinical diagnosis of epulis is that you often find a tumor of the gum which looks exactly like the ordinary form of giant-celled sarcoma which may be nothing but fibroid tumor, and which can be peeled off very easily. The other day I took off, under cocaine, which I supposed of course was the ordinary epulis. In that case there was a considerable interval between the teeth so that it could be easily removed in the space between. That proved on microscopic examination to be nothing but a fibrous tumor having nothing of the sarcomatous character about it, and none of the giant cells.

DR. RICHARDSON: In reply I would say that I agree with Dr. Mixter that this is the one form of malignant disease that admits of palliative treatment. I do not think, however, it is a safe plan to assume that all tumors of the gums are of a form to admit of mild operative measures, such as curetting or cauteri-

zation, until the diagnosis has been made by microscopic examination. The other day a most lamentable case came under my observation. The growth began, as nearly as I could ascertain, in the gums between the teeth. It was treated locally by various insufficient methods. When the case came to the hospital the whole upper jaw was infiltrated, and nothing could be done. I do not think it is necessary to take out a lot of sound teeth in all cases, but where the growth has recurred after various forms of operation it is better to be thorough even if you have to sacrifice the teeth, periosteum, and bone itself.

DR. S. J. MIXTER read a paper on

STRICTURE OF THE OESOPHAGUS—ITS TREATMENT BY INTUBATION.¹

DR. HOMANS: Can't this tube be swallowed without the probang?

DR. MIXTER: No sir; the funnel is a little too large.

DR. HOMANS: I have had a number of these cases. I recall one case in which a man was unable to eat anything, and had been treated for dyspepsia. I dilated the stricture, and he was comparatively comfortable. That case I followed to the autopsy. The cancer had eaten into the left bronchus. A portion of his food went into the lungs causing excessive cough. Dr. Whitney has placed the specimen in the Warren Museum. I think this man could have been made much more comfortable with one of these tubes which Dr. Mixter has shown.

I should like to ask the doctor if there has been any trial made to stretch the oesophagus further by passing one tube inside of another.

DR. MIXTER: I think there have been various methods of dilating the oesophagus. That would do for cases of non-malignant stricture, but in these cases, however much you stretch these malignant granulations, they spring right back into place, and the passage of any instrument is accompanied by hemorrhage. The object of this form of treatment is that it keeps these granulations back in place, and keeps a perfectly smooth passage so that you can, on removing one tube, pass another.

DR. HOMANS: Is there any explanation of the tolerance of the oesophagus in these cases? These people with intubation-tubes seem to get along perfectly well while most of us want to vomit if we have a foreign body in the oesophagus.

DR. MIXTER: They always complain at first of a tickling sensation which is produced by the string in the pharynx. In one case I first sprayed the pharynx with cocaine, and there was not the slightest trouble.

DR. HOMANS: Is the oesophagus supplied with nerves just like all other organs?

DR. MIXTER: Yes, sir.

DR. HOMANS: The oesophagus certainly must be very unsensitive. We swallow hot things and cold things, and have very little sensation, except in the back of the mouth.

DR. RICHARDSON: I was especially interested in the second case mentioned, which entered the hospital in my service some time in the summer. There was no doubt that the stricture had been caused by caustic potash. I should think that in ordinary cicatrical contraction the tube would become compressed.

¹ Publication deferred.

DR. MIXTER: It was very difficult to get any instrument through. After a time, however, you could pass this instrument with perfect ease. I saw her in the Out-patient Department day before yesterday, and she was looking well. An oesophageal bougie is now being passed. That is a case in which the tube should be worn a long time.

DR. RICHARDSON: It seems to me that this method is very valuable in certain cases, and I think we are indebted to Dr. Mixter for having demonstrated so well its merits. In my experience there are very few cases of oesophageal stricture where this method cannot be used to advantage.

DR. MIXTER: These tubes always stain above and below the stricture. I don't know the reason of this. I presume food may be swallowed around the tube. It is astonishing how well they can swallow with the tube in place.

DR. B. CUSHING reported a

CASE OF OBSTRUCTION OF THE BOWELS.

Mrs. ——, age about fifty-six. Was constipated, with, at times, diarrhea (in my experience a common combination). Was supposed to have cancer of the intestine, and had been under treatment — just how long I do not know — taking a good deal of opium. She came from the eastward to be under the care of Dr. Blanchard, who had attended her and her family when she lived in Dorchester.

Dr. Blanchard diagnosed the case at once as one of impacted feces. By means of injections and otherwise, he removed a good deal from the rectum, but did not quite reach the sigmoid flexure. As this time I saw the patient with him. She was etherized, and an examination made by the rectum. I could just reach a hard mass with the tip of my finger. It was like scratching a rough stone. Then, as before, attempts were made to dislodge the mass by injections, but without success. A solution of epsom salts (one ounce to a pint of water) was then given, a tablespoonful every hour, with the result that the intestine was emptied. I have found this means succeed before in like cases when other means have failed me.

I did not see the patient again, but Dr. Blanchard told me that she returned to her home in Maine relieved of the stoppage. She did not, however, regain her strength entirely, and seemed enfeebled in mind.

She died eleven months later.

Wishing to know whether there had been any autopsy, and the history of the last illness, I asked Dr. Blanchard to write to the attending physician; and in his reply will be found the principal interest of this case. He says:

"There was no autopsy.

"Cause of death appeared to be chronic intestinal disease, and resulting defective performance of the digestive functions. There was paralysis of the lower extremities, and some loss of power of the arms.

"There was no subsequent mechanical obstruction, but some tenderness at point of old obstruction at times.

"Mrs. —— used, for a great many years, a hair-coloring lotion, presumably containing lead. Could this have gradually poisoned the system, and produced the paralysis and peculiar cachexia existing so long before death?"

DR. STEDMAN: Was the patient subject to colics?

DR. CUSHING: I think so. At all events she was at the time mentioned.

DR. G. B. SHATTUCK reported a

CASE OF EXTENSIVE CEREBRAL LESION WITHOUT SYMPTOMS.²

AMERICAN ORTHOPEDIC ASSOCIATION.¹

FOURTH ANNUAL MEETING.

SECOND DAY.—MORNING SESSION.

The second day of the meeting was devoted to papers upon Lateral Spinal Curvature.

DR. BENJAMIN LEE, of Philadelphia, read a paper on

THE NERVOUS AND MUSCULAR ELEMENTS IN THE CAUSATION OF IDIOPATHIC CURVATURE.

Dr. Lee suggested the possibility of a primary lumbar curve being due to the unequal contraction of the psoas muscle, kept up by reflex nervous phenomena in the region of the ovaries.

DR. C. L. SCUDDER, of Boston, reported the results of an investigation into

THE STRENGTH OF THE BACK MUSCLES OF ONE THOUSAND ONE HUNDRED AND FORTY-ONE OF THE SCHOOL-GIRLS OF BOSTON.

An index of strength of the back muscles for each growing age was established. The relation of this standard of muscular strength to the etiology and treatment of lateral spinal curvature was shown.

DR. R. W. LOVETT, of Boston, read a paper upon

THE ETIOLOGY OF LATERAL CURVATURE,

giving briefly the most important and probable theories held at the present day. Lateral curvature appears earlier in life than formerly was supposed. The general condition of the child holds an important place in the etiology.

There are three theories of causation that are of value: (1) The theory of unequal muscular contraction; (2) that of unequal bony growth; and (3) that attributing the cause to the superercent weight of the body falling upon a spinal column held in a faulty position. Dr. Lovett believes that the latter view is the most probable.

DR. JUDSON, of New York, stated his view of the cause of rotation of the vertebrae in lateral curvature of the spine to be an unequal lateral displacement of the body and spinous process, the former being free from lateral attachments, and, therefore, departing from the median plane; while the latter is held in the median plane by its muscular and fibrous attachments.

Dr. Judson then explained his interpretation of the apparently unusual course of the bullet through one of the vertebrae of the body of President Garfield. The normal rotation of the vertebra in question, as the President inclined his body, he thought sufficient explanation.

Between the morning and afternoon sessions an interesting lecture was given by **DR. T. G. MORTON**, of Philadelphia, at the Orthopedic Hospital, upon his

METHOD OF DEALING WITH CLUB-FOOT.

Many patients were exhibited, demonstrating the results of treatment. In cases not easily reduced, Dr. Morton removes the astragalus, keeping the foot afterward in a tin shoe, and discarding apparatus as early as possible.

After the lecture, lunch was served, and an opportunity afforded for an inspection of the hospital building.

AFTERNOON SESSION.

DR. E. H. BRADFORD, of Boston, read a valuable paper on

THE TREATMENT OF LATERAL CURVATURE.

He divided, for clinical purposes, lateral curvature cases into four classes:

- (1) The non-resistant.
- (2) Those with some resistance.
- (3) The still more resistant.
- (4) The permanent curvatures.

Class 1 he advised treating by postural methods; cultivation of correct habits of carriage, and by partial recumbency in case of overgrowth; by massage and electricity; and by muscular exercises.

Class 2 is to be treated by the same methods as those used with Class 1, but more thoroughly and carefully carried out.

In Class 3 the methods to be used are those suggested in both Classes 1 and 2, and, in addition, suspension, and some form of support during rapid growth, together with forcible correction of the deformity at regular intervals. Various methods of forcibly correcting these cases were described.

Class 4, Dr. Bradford thought, could be treated by preventing any further increase in the deformity by retentive apparatus, and by using suitable support to the spine to prevent pain.

DR. HENRY L. TAYLOR, of New York, read a paper on

THE TREATMENT OF LATERAL CURVATURE,

in which he advised particularly the use of massage and forcible passive movements adapted to correct the deformity. Apparatus is, he thinks, of little use other than as a means of holding the deformity from increasing. Breathing exercises are of importance whether voluntary or assisted by suitable instruments.

THIRD DAY.

Several of the papers announced for the last day of the session were not read, on account of the absence of the writers.

DR. JOHN RIDLON, of New York, made

A REPORT OF SIXTY-TWO CASES OF HIP DISEASE OBSERVED IN THE PRACTICE OF HUGH OWEN THOMAS, OF LIVERPOOL.

DR. JAMES K. YOUNG, of Philadelphia, read, by invitation, a paper on

DISEASES OF THE EYE ASSOCIATED WITH SPINAL CARIES.

He described briefly those diseases of a strictly strumous or tubercular origin which are associated with any of the tubercular inflammatory processes in bone.

¹ Concluded from page 304.

² See page 324 of the Journal.

DR. SAMUEL KETCH, of New York, read a paper upon

POSTERIOR RACHITIC CURVATURE OF THE SPINE.

He thought the posterior curve due to superincumbent weight upon a soft bony column.

Dr. Ketch dwelt on the differential diagnosis between spinal curves due to caries and rachitic curves. The best treatment is recumbency. Apparatus in very young children, in whom the curvature is most apt to appear, should be avoided.

DR. R. W. LOVETT, of Boston, read a paper upon

LATERAL DEVIATION OF THE SPINAL COLUMN IN POTT'S DISEASE.

He emphasized the occurrence of this deformity of lateral deviation with a certain degree of rotation in the beginning of almost all cases of caries of the spine. Accurate measurements of this lateral deviation had been made. Its importance as an early diagnostic sign was dwelt upon, and it was thought to be easily controlled in most cases by the customary methods of treatment, recumbency and fixation of the spine.

THE PROGNOSIS OF PRESSURE PARALYSIS

was considered by DR. T. H. MYERS, of New York.

His remarks were based upon a study of the cases of pressure paralysis occurring in the cases of Pott's disease treated at the New York Orthopedic Hospital and Dispensary.

The Association was pleasantly entertained by Dr. James K. Young and Dr. Benjamin Lee.

DR. A. B. Judson was chosen President, and DR. John Ridlon Recording Secretary and Treasurer of the Association for the following year.

The Association adjourned, to meet with the American Association of Physicians and Surgeons at its meeting next year in Washington, D. C.

Recent Literature.

Transactions of the Association of American Physicians. Volume IV: Fourth Session, held at Washington, D. C., September 18-20, 1889. Volume V: Fifth Session, held at Washington May 13-15, 1890. Philadelphia: Printed for the Association. 1890.

These two volumes of valuable papers appear somewhat nearer together than usual, the interval between the last two sessions having been only eight months, and the last volume of transactions appearing with commendable promptness.

Volume IV contains the President's Address, by Dr. Francis Minot, on "The Progress of Medicine during the Last Fifty Years," and nineteen other papers, embracing as wide a range of subjects as General Paralysis (early symptoms), Tetany, Thrombosis of Cerebral Sinuses and Veins, The Effusion of Chyle and Chyle-like Fluids into Serous Cavities, Substitutes for Opium, Cases of Slow Pulse, Chlorosis and Its Relation to Various Anæmias and to Hodgkin's Disease, Subjective False Sensations of Cold, Gastric Neuralgia, The Contagium of Diphtheria, The Frequency of Lead in the Urine, Tuberculosis in Cows as a Source of Danger from the Milk, Hot Air Inhalations in Pulmonary Tuberculosis, Malignant Disease

of the Duodenum, of the Gall-Bladder and Ducts, and the Anatomical Relations of the Lesions of the Heart and Kidneys in Bright's Disease.

Volume V, while somewhat smaller than its predecessor, contains almost exactly the same number of articles, and includes papers on Enteric Fever, Inflammation of the Appendix, Varicose Aneurisms of the Aorta and Superior Cava, Antiseptic in Midwifery, Seizures Characterized by Shock and Sudden Coma, Some Disorders of Sleep and Insomnia, The Anesthesia of Hysteria, The Etiology and Treatment of Migraine, Pathological Demonstrations, Culture of Tubercle Bacillus, Purpura Haemorrhagica, Rheumatica, Acute Pancreatitis, The Limitation of Tuberculosis in Man, Methods of Examination and Diagnosis in Diseases of the Stomach, Cases of Acromegaly, Diathetic Causes of Renal Inadequacy, and the Etiology of Pleuritis.

Several of these papers are to be found in former numbers of the JOURNAL.

— The *British Medical Journal* fails to be impressed by the medical law of the State of Washington, U. S. A. It says that the Americans carry their love of protection into matters medical as well as other things, and accordingly, a man who has obtained his diploma in one State cannot practice in another without passing a fresh examination; the number and diversity of the diploma-granting bodies are no doubt a sufficient justification for protective measures. A letter from a successful candidate shows how this system works in the State of Washington, and does not add much to the reputation for common-sense which the Americans are supposed or suppose themselves to be so largely possessed of. The examining board is composed of four regular practitioners, three homœopaths, a "physio-medic" and an "eclectic"; what the peculiar tenets of the two latter practitioners are, or in what way they differ from each other, we have no idea; but their professional attainments are abundantly evidenced by the questions they asked. The writer of the letter referred to gives several of the questions, of which we may select the following as sufficient for our purpose. The "physio-medic" asked: "What does delayed dentition prognosticate?" The candidate could not tell, nor could the two or three members of the board to whom he afterwards submitted the question. Amongst the problems—for we can call them nothing else—propounded by the "eclectic," one was, "What's the *peremptory* condition of pepsin in the stomach?" It was ascertained that the proper answer to this abstruse question was "hydrochloric acid." Another of his problems was, "What's the effect of too much red corpuscles in the blood?" Altogether, our contemporary does not think that the board, as at present constituted, is likely to do much credit to the governing body which has called it into existence.

— An Omaha aurist and oculist has been discovered, it is said, to have an arrangement with jewellers and opticians, whereby the latter send him patients, of whose fees he remits fifty per cent. to the sender.

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THE SIGNIFICANCE OF FEVER. — I.

PROBABLY on no pathological subject has so much been written the past twenty years as that of fever. Into the various experimental investigations and speculations to which this study has given rise we do not propose to enter. The two theories of fever which have now found almost universal acceptance are (1) the combustion theory, according to which the rise of temperature results from increased activity of the process by which heat is naturally formed in the tissues; (2) the neurotic theory, according to which the rise of temperature is due to impairment of that inhibitory force by which the heat-producing process is kept within normal bounds.¹ These two theories, as Macalagan shows, are not antagonistic to each other; each is complete in itself, and has its own special sphere of application. The agencies which they represent are doubtless co-operant in most cases.

While pyrexia is often of neurotic origin (for example, that which accompanies cerebral tumor or hemorrhage, injuries of the cervical cord), in other cases, and notably in the infectious fevers, the nervous symptoms are not constant, and when they do occur, they are secondary to the nutritive disorders; and the evidence all points to a pyretogenous cause at work in the blood, by its irritating effects on the anatomical elements of the tissues, exaggerating all the calorifacient chemico-vital processes. The principal seat of this thermogenic metabolism is undoubtedly the muscles whose oxidation is the chief source of animal heat in the state of health. According to MacAlister, the muscles contribute four-fifths of the normal body heat;² in fever, the proportion must be higher.

As to the pyretogenous agent itself, the pathologist of to-day has no hesitation; it is the deadly microbe, or some poisonous ptomaine elaborated by the microbe. Every infectious disease has its micro-organism; the fever is but a symptom of the destructive influence of the microbe on the tissues, either by direct action on

the anatomical elements, or by paralysis of the heat-regulating centres.

A few years ago, it was the prevalent notion that a high febrile temperature was itself a source of danger, and lurid pictures were drawn of the granulo-fatty degenerations which attended prolonged hyperthermia. The free use of antipyretics and especially of cold baths was regarded as indicated to save the patient from these effects. It was afterwards shown that these degenerative alterations of the viscera, and especially the heart, were not so much the effect of the fever as of the fever poison, and experiments proved that textural changes which were attributed to heat were capable of being produced by infective causes. Moreover, instances were noted of grave and fatal cases running their course, producing softening of the viscera, etc., with a phenomenally low febrile temperature. Consequently, there has been a reaction from the extreme doctrine originally propounded by Liebermeister and others, and it has been seriously maintained by some authorities that the febrile process is in the main salutary. This view is well expressed by Cantani of Naples, in an address recently delivered at the Berlin Congress:

Antipyretics diminish the production of heat; but are these remedies really useful? What is fever? Does the fever constitute the principal danger? How happens it that certain remedies combat effectually certain kinds of fever, while they do not act in others, or very slightly; they may indeed diminish the fever, but they do not shorten the duration of the disease by one day.

. . . Fever is the general reaction of the organism against the alterations which the morbid agent provokes in the molecular exchanges. The reaction is the condition of recovery. . . . When the organism fails to react, the morbid agent produces alterations so general and so intense that life is no longer possible. Recovery, then, depends on the reaction of the entire economy against the micro-organism; it is the struggle for life; when the microbe gets the best, the patient dies. . . .

It is not, then, the fever which constitutes the gravity of the disease, when the general condition remains good. The elevation of the fever has not a very grave prognostic significance; it indicates only that the body reacts in an energetic manner. . . .

The fever may act favorably in diminishing, by the elevation of the temperature, the virulence of the microbes. At the same time, many pathogenic bacteria, such, for example, as the bacillus tuberculosus, support degrees of temperature which fever cannot reach; others, on the contrary, as the bacillus of anthrax, the spirillum of malaria, the streptococcus, are destroyed by high febrile heat.

The fever may augment the action of the elements of the tissues, increase their power of resistance. It is unlikely that the whole struggle against the microbes belongs to the white globules alone; the other cells equally take part. Lastly, in modifying the molecular exchanges, the fever may sterilize the soil (*terrain*) and prevent the multiplication of the microbes.

We are not, then, called upon to fight the fever in itself. Our end will be to find means which shall annihilate the very agents of the disease. Thus it is that quinine acts in malarial fever, mercury in syphilis; their rôle does not consist in combating the fever, but in rendering the fever unnecessary, by destroying the very cause of the disease.

It is not, then, an antifebrile treatment that we are called upon to institute, but a pathogenic treatment. We are not warranted in blindly prescribing such antipyretics as kainin, phenacetin, acetanilid; they have no specificity; they have an effect solely on the production of heat; and they thus diminish the reaction of the body against the microbes and injure the organism. It is folly to think of endeavoring to stay the march of a febrile disease by arresting the production of heat. You

¹ See Macalagan, Lancet, March 12, 1887.

² Lectures in Lancet, 1887.

can only do this by diminishing the activity of the organic cells, and the employment of large doses of the antithermic medicaments may give rise to collapse. The end of our search should be to find remedies which may have a specific action on the pathogenic microbes.

Cantani qualifies these statements by the admission that in some cases a prolonged elevation of temperature may be more harmful than beneficial; then, it is desirable to resort to refrigerants, such as cold baths, cold douches, cold ablutions, which diminish the heat of the body without diminishing heat production.

The doctrine that "fever is no disease, but simply a symptom, an indication of the battle fought by the organism to get rid of a morbid condition" was taught before its enunciation by Cantani at the recent Berlin Congress, by Winternitz, of Vienna, by Samuel of Stuttgart, and by Professor Cohnheim. The latter, taking a teleological standpoint, and looking at fever as a manifestation of the *vis medicatrix*, anticipates the time "when physicians will more and more regard fever, not indeed as a condition free from danger, but as, on the whole, a wise provision of nature."

It is doubtless true that this view was a reaction from the exaggerated ideas which had been prevalent as to the dangers of high fever heat, and as to the necessity of vigorous antipyretic treatment. Clinical observations were not lacking to show that the prolonged existence of high temperatures was not necessarily followed by granulo-fatty degenerations of the viscera and myosites, and that these lesions were rather dependent on the irritant character and intensity of the infection. In fact, some of the most dangerous and fatal cases of septic and typhoid fevers run their course without presenting any continuous high elevation of temperature. Hayem in his "Studies on the Symptomatic Myosites" relates such observations, and Vallin reports the case of a typhus patient whose temperature never exceeded 100° F., and where the autopsy revealed not only fatty myocardium, but fatty degeneration with rupture and hemorrhage of the muscles of the abdomen and thigh.

The natural inference from observations of this kind was that expectancy rather than a vigorous antipyretic treatment was indicated. The pyrexia might be regarded as an evidence of a healthful reaction—an attempt on the part of the organism to burn out the micro-organisms or render the fluids and tissues unsuitable for their development; and therefore should be respected rather than combated.

The objections to this view have been well-stated by MacAlister in his Croonian lecture on "Antipyretics." It is true that some of the least known microphytes are checked in their growth or multiplication by high temperatures. Gaffky showed that typhoid bacilli formed spores with difficulty at 107.5° F.; Koch that tubercle bacilli ceased to grow after being kept for some weeks at a like temperature. The bacillus anthracis continues to grow but loses in virulence if kept for some weeks at 108.5° or for some days at 109.5° F. Surely it cannot be held that such facts are really

relevant. A body temperature of 107° to 109° kept up for days or weeks is too powerful a remedy. The body would be consumed before its parasite.

A less direct explanation was suggested in a recent lecture by Von Ziemssen; namely, that the pyrexia so alters the constitution of the tissues that the microphytes no longer find in them a suitable soil, and so perish. But against this is the fact that the exanthemata tend strongly to run a definite course, whether the fever be high or low.

Hilton Fagge and others cite cases in which the febrile paroxysm seemed to have a destructive effect on the living virus of relapsing and of intermittent fevers. The true explanation seems to be of a different kind, and is applicable to all the specific diseases attributed to specific micro-parasites. These parasites seem like other living creatures to have a definite life period, in which they grow, multiply, exert their special action, and decay. This period is independent of pyrexia, independent of antipyretic treatment, and independent of external conditions.

The definite duration of virulence in typhus, measles, small-pox, etc., and the sudden extinction of its vitality at the crises in croupous pneumonia, bespeak a normal biological property in the virus, a law of its life, which forbids it to live beyond a certain time. It has been shrewdly asked: If pyrexial temperatures are not in themselves dangerous, but merely serve to purify the body without injuring it, why are they in ordinary cases confined within such narrow limits? If fever be a process with a purpose, would it not be better to nip the growth of the microphyte in the bud by a prompt and intense rise of temperature at the beginning of the illness?⁸

These considerations seem to dispose of the teleological theory of fevers, and the evolution-hypothesis, strongly advocated by MacAlister, assumes that from the remotest time the microbes of septic processes and of fevers, have existed in common with the organisms on which they prey; that when the conditions are favorable, they invade these higher organisms, and take possession of the fluids and tissues, grow, luxuriate and multiply: a struggle for supremacy takes place between the cells of the organism invaded and the microbes, of which struggle fever is one symptomatic expression. Fever is the result of irritation by microbes and microbe-poisons of the anatomical elements which, in the recesses of the tissues—chiefly of the muscles—are the seat of normal thermogenesis; an inordinate combustion takes place, and the products of this combustion are seen in the increased elimination of carbonic acid, urea, and other waste substances. The thermotaxic or heat-regulating nervous mechanism is deranged—inhibited, paralyzed—by the microbe-poisons, and the thermolytic vasomotor centres are also deranged, so that there is failure in heat elimination. This process goes on until one or the other of the combatants is triumphant. The higher organism is favored in the struggle by the resistance of its cells,

⁸ Croonian Lectures on Antipyretics.

leucocytes, and fluids, and by the fact that the life history—the active period—of its microbic foe is brief; if the vital forces can be sustained until the microbe has had its day, *restitutio ad integrum* takes place. The microbe also is hindered, perhaps ultimately stayed in its progress by the poisonous ptomaines which are generated during the functional activity.

According to this view, then, fever can hardly be regarded as a teleological process.

How far can antipyretics avail, and what is the logical treatment of pyrexia; does it, in fact, need any treatment at all? These are questions which deserve separate consideration.

MEDICAL NOTES.

—The Society of Trained Male Nurses of New York City has been incorporated to unite together such male nurses as apply for admission and come within its requirements, which provide that the applicant shall be either a member of the training-school for male nurses at Charity Hospital, or a graduate, with diploma, of any other reputable training-school for male nurses; also, to provide a suitable meeting-place, where its members, when unemployed, can meet for social intercourse, and to discuss subjects of mutual interest in their line of work.

—Mr. Lawson Tait, in a paper before the recent Congress at Berlin, advocated an application or a re-application of the apprenticeship system to the study of young surgeons. The period of apprenticeship should be, according to Mr. Tait, two years. Hospital practice does not, he thinks, take the place of study of the management of patients in their own homes.

—The Chinese, as we learn from a contemporary, who reject scornfully nearly every application of Western medical science, are, according to the governor of Hong Kong, firm believers in the advantage gained from vaccination, and submit to the ordeal with a cheerfulness and philosophy which are characteristic of this wily Oriental. Protection by vaccination is especially required in Hong Kong, owing, as Sir William des Voeux points out, to the frequency with which small-pox is introduced by steamers coming from all parts of the world, and to its fatal prevalence when it has once obtained a footing.

BOSTON.

—The entering class at the Harvard Medical School is the largest since the establishment of the three years graded course. It numbers between forty and fifty more than previous classes.

NEW YORK.

—Expert Wheeler of the Board of Electrical Control in his report on the death of Lineman Kopp, who was killed at Broadway and 35th Street, on the night of September 22d, holds that the deceased was respon-

sible for his own death, because he failed to wear rubber gloves in making the repairs on which he was engaged when he received the fatal charge of electricity. The United States Company, on whose wires he was at work, provides such gloves for its operatives, and he therefore considered it blameless in the matter.

—Some three hundred applicants who desire to pursue the study of the professions of law and medicine, presented themselves in New York and Brooklyn on September 23d, for the preliminary examinations held under the direction of the Board of Regents of the University of the State of New York, in accordance with the provisions of the new law passed by the Legislature at its last session. The examinations were held at the College of Physicians and Surgeons, where Francis J. Cheney, Ph.D., State Inspector of Schools and Colleges, was in charge; at the University Medical College, under Ralph W. Thomas, and at the Long Island College Hospital, under Professor Massee. Similar examinations were also held at the same time at Albany, Syracuse and Buffalo. All the students were examined successively in arithmetic, geography, grammar, spelling and English composition, and United States history. In addition, those proposing to study law were required to pass in English history, while the medical candidates had to elect between physics and physiology. The examinations were all in writing, three hours being allowed for each branch of study, and a percentage of seventy-five was required in order to pass. Similar examinations will be held in November, January, March and June, and those failing to pass can present themselves again at any of these times. Under the new law, which is designed to lessen charlatanism and quackery, medical or law graduates, physicians or lawyers in practice, and graduates of colleges or high grade schools are exempt wholly or in part from such preliminary examinations. Up to the present time any accredited physician might practice in the State of New York by the simple act of registering with the clerk of the county in which he desired to practice.

—The attorneys for a Japanese murderer now in Sing Sing prison awaiting execution by electricity, have applied for a writ of habeas corpus for him, on the ground that the electrical apparatus now in possession of the State is incapable of producing instant death, as required by the statute. A portion of the petition is as follows: "Your humble petitioner further alleges that said machines can generate a normal force (expressed in volts) of only 1,050 volts; that such force is inadequate to immediately overcome the resistance of a body (expressed in ohms) of only 23,100 ohms, and only upon a human body of that resistance, can said machines inflict instant death; that while the application of the force from said machine to petitioner's body would kill him, that result would only follow the reduction of his resistance gradually, while he would meanwhile be slowly tortured and consumed by heat, and put in exquisite anguish by incessantly repeated shocks of the entire nervous organiza-

tion; that whether he would be unconscious during the torture, would depend on his ability to endure pain; but that if he should be unconscious it would be because he would be unable to endure the torture, not because the centres of nerve sensation would be destroyed or because of instant death. The machines and processes held out, and the only ones which the State has authority to use, are entirely incapable of producing any other or different effect. Your petitioner's electrical resistance exceeds 500,000 ohms. Your petitioner further alleges that no other means of artificially generating electricity now known, can produce any other result; that the State and its agents cannot procure or purchase a license to use any other dynamo-electric machines, and cannot manufacture such machines, which are protected by letters patent; that no adequate machines are made or can be made for the generation of an adequate current such as is by said sentence prescribed. It is, therefore, not possible to apply a current of electricity to the vital parts of petitioner's body under such circumstances or in the manner contemplated by the electrical execution statute of the State of New York."

—Mr. Stockton, the son of the Attorney-General of New Jersey, a short time since received such severe bites from a cat that fearing serious results might ensue, he has become a patient of Dr. Gibier at the New York Pasteur Institute. The cat, which had been acting strangely for some little time, terrified one of his children, and when he attempted to pick it up to remove it from the room, it made a sudden snap at him and lacerated his hand in a very bad way. The cat was brought with him to New York, so that it might be kept under Dr. Gibier's observation.

—By the will of Mrs. Harriet M. Remington, who died on August 23d, the Brooklyn Home for Consumptives receives \$4,000, and the Brooklyn Eye and Ear Hospital \$20,000.

Miscellany.

THE DIAPHANOUS TEST OF DEATH.

DR. BENJAMIN WARD RICHARDSON in the last *Asclepiad* speaks of a paragraph making the round of the scientific and general press which must be accepted *cum grano*. In this paragraph it is stated that the French Academy of Sciences ten or fifteen years ago offered a prize of £1,600 for the discovery of some means by which even the inexperienced might at once determine whether in a given case death had or had not ensued. A physician obtained the prize. He had discovered the following well-known phenomenon. If the hand of the suspected dead person be held towards a candle or other artificial light with the fingers extended and one touching the other, and one looks through the spaces between the fingers towards the light, there appears a scarlet red color where the fingers touch each other, due to the blood still circulating, and showing itself through the tissues, if life have not yet ceased. When life is entirely extinct the

phenomenon of scarlet space between the fingers at once ceases. The most thorough trials, it was said, had established the truth of this observation.

Dr. Richardson says that in his essay on absolute proofs of death he has described this test with the others, and has attached to it its true value. The statement that the test is sufficient of itself is, however, too solemn to be allowed to go without correction; and he therefore affirms, with all possible earnestness, that the test, trusted to alone, is capable of producing the most serious error. In the case of a person in a state of syncope, where the test was most carefully applied, there was not the faintest trace of red coloration between the fingers; yet recovery from the syncope was quite satisfactory without any artificial aid. The test is one which admits of being readily tried, and, *prima facie*, it is a good test to bring into operation. But as an absolute proof of death Dr. Richardson would put before it: (1) the pulsation of the heart; (2) the respiratory murmur; (3) pressure on veins; (4) the electric test for muscular irritability; (5) the ammonia hypodermic test; (6) coagulation of blood in the veins; (7) rigor mortis; and (8) decomposition.

CHILD-WIFE MURDER.

A SPECIES of injury for which the marriage customs of oriental countries probably give an especial opportunity, is illustrated by the following case which we find reported in the *Indian Medical Gazette*, August, 1890:

The case was recently tried before the Sessions Court in Calcutta. The accused was found guilty by a jury composed of six Hindus, one Mohammedan, and two Europeans, of inflicting grievious hurt through committing a rash and negligent act and sentenced to one year's rigorous imprisonment.

A well-developed and well-nourished native girl, aged at time of death, eleven years, three months and fourteen days, was married to a healthy Hindu (Ooriya Kastu caste) aged thirty-five, on the 11th of May, 1890 (age eleven years two months and nine days). She went to his house the day after the marriage and stayed eight days with him, and again after two days for part of a day. Her husband came to see her at her mother's house at the Snan Jattra (June 3d) and stayed three days, and again on Sunday, June 15th. The girl went to sleep with the sisters in a corridor, and about 1.30 of the 16th her cries were heard coming from the adjoining room where her husband slept. She was found lying on a charpoy weltering in blood the man standing beside. A doctor saw her about 6.30 next morning and found her labia a little swollen on both sides and a clot in the vagina. She was almost dying, pulseless. She died about 3 p. m. the same day (thirteen and a half hours). On *post-mortem* examination next morning the following facts were found: Body well-nourished. Mucous membranes pale, no hair on pubes, breasts beginning to be prominent, not developed. No external mark of injury. No abrasions or marks about the genital organs. Internal organs healthy with exception of edema at base of left lung; they were bloodless. A clot measuring three inches by one and one-half inches in vagina. Vagina smooth and dilated. No hymen or fourchette; no rugae. A longitudinal tear one and three-quarters long by one inch broad at upper end of vagina to right of os uteri. A haematoma

three inches in diameter in the cellular tissue of the pelvis. Vagina, uterus and ovaries small and undeveloped. No sign of ovulation. The police surgeon deposed the death was caused by exhaustion from bleeding caused by injury sustained during sexual intercourse.

BLISTERING BY HYPNOTIC SUGGESTION.

In the *British Medical Journal*, September 13th, we find notice of some remarkable experiments made by Dr. Iakov V. Rybalkin, of St. Petersburg, and published in the *Bolnitschnaia Gazeta Botkina*, Nos. 26, 27 and 28, 1890, p. 650, which confirm the statements made by Presalminis (1840). Focachon, Beaunis, Delbeuf, Forel, Jendrassik and Kraft-Ebing, that cutaneous blisters can be easily raised by hypnotic suggestion. The author's experiments were performed in the presence of a number of the medical officers of the Mariinskain Infirmary, the subject being a strongly made and well-nourished house-painter aged sixteen, suffering from typical hysteria magna and extremely sensitive to hypnotizing procedures and post-hypnotic suggestions. On February 21st, at 8.45 p. m., the patient was thrown into a deep hypnotic sleep, and then told that, after awakening, he was to shiver from cold and to approach a stove in the room in order to warm himself; when doing so he was to touch the stove with his right forearm and to contract a severe burn ("pain, redness, heat, bladder") about the middle of the inner surface of the part. The suggestions were repeated thrice, after which the lad was ordered to awake. He obeyed all the suggestions in the strictest possible manner, and even loudly screamed from pain as soon as the suggested area came in contact with the stove, (which was quite cold). On immediately inspecting the part, a slight, palish swelling, surrounded by a reddish zone, which proved to be painful on touch or pressure, was found exactly at the suggested point. The limb was at once bandaged, and the lad sent to bed (in the room). He could not fall asleep, however, being tormented by an acute "rending" pain caused by the "accident." On removing the bandages at 11 p. m., a considerable swelling with papular erythema was found, the adjacent zone four or five centimetres wide, being exceedingly tender. The limb was again securely bandaged, and re-examined at 10 A. M. on the next morning, when there were found two slightly yellowish semitranslucent blisters as large as a nut and a pea respectively, and around them a group of smaller vesicles (each of the size of a pin's head). On another examination at 3 p. m. (eighteen hours after the "accident"), all the individual blisters proved to have coalesced into one large bladder. Two hours later the blister burst. The after-course presented nothing different from an ordinary case of burn.

THE FIFTH DISTRIBUTION OF ARMS AND LEGS TO VETERANS.

ACCORDING to Washington correspondents of the daily press the office of the surgeon general of the army is now being besieged for artificial arms and legs. These artificial members, with which Government provides all the maimed veterans at stated periods, were appropriated for in the sundry civil bill, which was

delayed for so long in its passage by Congress. In consequence of this delay the cripples have been obliged to wait over-time for the limbs due them, and they have not done it very cheerfully.

The law, passed in 1870, declared that every soldier or sailor who had lost a limb or the use of it in the service of this country should be supplied with an artificial one to replace it once every five years at the Government's expense. Or, it was provided that, if the beneficiary did not wish to take the limb, he should be paid its cash value instead. Now, an artificial limb is a pretty costly thing, and many an old soldier prefers to stump around on a wooden peg and put his \$75 in his pocket. That is the sum given as "commutation" for a leg, \$50 being the amount paid for an arm.

The law covers not merely limbs lost but limbs rendered useless. Of course, there are many more old soldiers who have disabled limbs than have lost them, and they necessarily draw the money. Thus, out of eighteen thousand veterans who receive this bounty from the Government every five years, only about eight hundred call for actual arms and legs, the rest accepting cash instead. Perhaps as many as eight hundred more prefer to go without the artificial legs they need as a measure of economy, using stumps or crutches instead. The one-armed men take their checks nearly every time. When the law was first passed nearly as many arms were called for as legs; but the cripples soon discovered by experiment that, while an artificial leg is a most useful piece of mechanism and a very fair substitute for the article, the best false arm is hardly more than a thing for ornamental purposes. So it came about that there have been few applications for arms since, ninety-nine legs being made at Government expense for every arm.

The Government, continues the correspondent from whom we quote, has a list of about forty artificial limb factories in all parts of the United States, from which the veterans may make their own selections, so that any one may have his leg or arm turned out by any of these establishments that he prefers. All of the manufacturers on the list are under bonds of \$10,000 each to supply the old soldiers with satisfactory goods. It is provided incidently by the law that the person needing the limb being provided with a certificate for it, shall be given free transportation from his home to any city he desires, where a factory is situated, with sleeping-car accommodations, and return. Thus a veteran in New York may be desired to be measured for a leg in San Francisco, and, if so, is entitled to a trip across the continent and back once in five years in a Pullman palace car, free of expense. He must pay for his meals en route, however, which he is likely to consider an outrage. To the recent Grand Army Convention at Boston old soldiers went as dead-heads from all parts of the United States, for the purpose of being measured for arms and legs. This may be referred to, perhaps, as an illustrative definition of the slang term that puzzles so many people — "pulling one's leg."

A CASE OF TETANY.

DR. SCHENCK, of Illinois, read before the Section for Diseases of Children at the late meeting of the American Medical Association, the following case of this rather rare affection:

October 23, 1889, Clara L. Brine, of Grayville, Ill., was brought to my office; she being a well-developed, bright and healthy-looking girl of ten years. The mother and father, who accompanied her, were both above the average in size, of intelligent bearing, and barring a few slight attacks of unimportant sickness, had always been healthy. Their five other children were all well developed. Clara had been healthy until three years since, when she suffered from some ailment of the bladder, but which was of temporary duration. Near two years ago, while in her usual health, she was suddenly seized with a swimming sensation, and fell backwards on the floor; not, however, losing consciousness. Attacks of this character occurred at frequent intervals for nearly one year. She usually avoided falling by holding to some object until the sensation passed off. The physician who treated her told the parents the attacks were caused by some heart disease. Gradually these paroxysms were ushered in, or preceded, by more or less tonic cramps of the lower limbs, felt most severely at the knees; when the feet were involved, the toes would be drawn together and towards the sole of the foot. Later the upper extremities, and finally the jaws, became involved in the tonic contractions; but as they did so, the dizziness became less, and the cramps of the lower limbs grew lighter, and for the last six months had ceased entirely; while those of the upper extremities, neck and jaws had grown correspondingly more severe and more frequent, averaging about ten a day; being most frequent during the forenoon, but never occurring during sleep. In some of the most severe attacks there was decided opisthotonus. In all those attacks consciousness was never lost. During the past year she had been treated by a physician for epilepsy. During the time of her visit to my office, while I was familiarizing myself with a history of her case, she was seized with a severe paroxysm, while in the midst of sentence, and when not in the least excited. It came without any premonition and involved both upper extremities, and the muscles of the neck and jaws, in the order named. The muscles were so rigid that she was unable to speak, swallow, or move the head; the elbow-joints were flexed, and the arms held rigidly from the side; the right hand was closed into a hard fist; the fingers of the left were first irregularly over-extended, then drawn together, the two outer coming under the two inner ones, while the thumb was drawn down to the palm, forming the obstetric hand. The face became full and flushed. This condition lasted near two minutes.

The paroxysm was accompanied by radiating pains in the parts involved: "a sharp pain, with other pains shooting out from it," was her expression. She complained, after the attack, of numbness and formication in the muscles affected, also of ringing in the ears. Examination revealed slight edema of the hands and face; tendon reflex of knees and wrist entirely absent; Argyll-Robertson pupil well marked; pulse 120 per minute, small and hard. Had always suffered slightly from constipation; appetite good; sleeps well and quietly; temperature normal. There was no tenderness along the spine or over the ovaries, or any other part of the body; not subject to excessive perspiration; nervo-muscular irritability could not be produced by raking finger-nail in front of ear; there were no nausea nor vomiting after attacks; she had not been a

bottle-fed infant; had never suffered from rickets or laryngismus; did not pass large quantities of urine after paroxysms; pressure on the large blood-vessels or nerves did not bring on an attack; applying cold water to hands failed to cut short a paroxysm.

The treatment and progress of the case were as follows:

October 23, 1889.

R.	Liquor potass. arsenitis	3 j.
Soda brom.	. . . . .	3 ss.
Aqua	. . . . .	ad. 3 iv. M.
Sig.	One teaspoonful after meals.	
R.	Antifebrin	gr. xxx.
	Divide into fifteen capsules.	
Sig.	One capsule before meals.	

October 31st, symptoms very slightly improved; averaged five paroxysms per day since the former visit; pulse 120; tendon-reflex of the extremities imperceptible; Argyll-Robertson pupil still marked.

Thinking she might be afflicted with worms, the writer gave

R.	Hydrag. chlor. mitis	gr. ij.
Soda bicarb. santoninæ	. . . . .	as gr. vi.
Mix flat Chart No. vi.		
Sig.	One powder at 4, 6, and 8 p. m. on consecutive nights.	

Then to begin the following:

R.	Fl. ext. conium	3 j.
Sig.	Eight drops after each meal.	
R.	Glonoin	3 iv.
Sig.	Two drops two hours after meals.	

November 12th. Had passed no worms from santoninæ. During the first six days she had nineteen paroxysms, and none during the last five. Continues the two last prescriptions.

December 4th. Had no paroxysm since last visit; tendon reflex of both upper and lower extremities nearly normal; pupil responds properly to light. Continued the nitro-glycerine and stopped the conium.

February 3d. She had had no attack since last report; and May 10th, reported herself as quite well.

Correspondence.

THE STUDY OF MUSHROOMS.

22 MONUMENT SQUARE, CHARLESTOWN DISTRICT,
BOSTON, September 27, 1890.

MR. EDITOR:—Since the publication of my article on "Mushrooms and Mushroom Poisoning" (JOURNAL, September 18, 1890), I have had inquiries as to works relating to the study of mushrooms.

The following list of a few rather inexpensive English works will be of service to the student. It is not intended to be a bibliography. No mention is made of references to periodical literature, or of the larger and more expensive books, or the strictly scientific works of the earlier writers.

There is not as yet any work which answers for the cryptogams as "Gray's Botany" does for the phenograms. The nearest approach is Stevenson's work, to be used in connection with Smith's "Clavis." The American student must search periodical literature if he wants descriptions of strictly American species, particularly the very valuable reports of State Botanist C. H. Peck, of the New York State Museum.

The life-size figures on the charts which accompany "Mushrooms and Toadstools," by Worthington Smith, are

of great value. A new edition is soon to be, if not already, issued. Palmer's "Mushrooms of America," while not in every instance correct as to the botanical nomenclature, has most excellent plates, which are invaluable to the beginner. The "Boleti of the United States," by C. H. Peck, is exhaustive, and only lacks illustrations to make it perfect.

Outlines of British Fungology. By Rev. M. J. Berkeley. Illustrated by colored plates. London: L. Reeve & Co. 1860. **Handbook of British Fungi.** By M. C. Cooke. (Superseded by Stevenson's work.) London: MacMillan & Co. 1871.

A Plain and Easy Account of British Fungi. By M. C. Cooke. London: Robert Hardwicke. 1871.

Mushrooms and Toadstools. Illustrated with two large charts. By Worthington L. Smith. London: Robert Hardwicke. 1867. (Out of print, new edition about to appear.)

The Esculent Funguses of England. By C. D. Badham. London: L. Reeve & Co. 1870. (Most entertaining reading.)

Fungi: Their Nature and Uses. By M. C. Cooke. Edited by Rev. M. J. Berkeley. New York: D. Appleton & Co. 1875.

Toadstool Eating. By Julius A. Putnam, Jr. *Popular Science Monthly*, May, 1877. (A popular article, and worth reading.)

Mushrooms of America, Edible and Poisonous. Edited by Julius A. Palmer, Jr. Boston: L. Prang & Co. 1885. (A dozen good plates, with descriptions and rules for cooking and eating, only \$1.60.)

British Fungi (Hymenomycetes). By Rev. John Stevenson. Edinburgh and London: William Blackwood & Sons. 1886.

Clavis Agaricinorum: An Analytical Key to the British Genera. By Worthington L. Smith. London: L. Reeve & Co. 1870. (Essential to the analyst of species.)

An Elementary Text-Book of British Fungi. Illustrated by William Delisle Hay (using cuts from Cooke's Handbook). London: Swan, Sonnenschein, Lowrey & Co. 1887.

The Fungi Hunters' Guide and Field Memorandum Book. By W. Delisle Hay. London: Swan, Sonnenschein, Lowrey & Co. 1887. (Aids nothing of value to Smith's "Clavis" but the cuts taken from Cooke.)

Reports of the Botanist (Yearly). By Charles H. Peck, State Botanist, Albany, N. Y. (Public Documents.)

Boleti of the United States. By Charles H. Peck, State Botanist. Bulletin of the New York State Museum, No. 8, September, 1889. Albany: University of the State of New York.

Very truly yours,
EDWARD JACOB FORSTER, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 20, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	660	311	24.75	12.45	4.35	12.45	2.55
Chicago	1,100,000	365	166	20.10	11.07	3.75	9.11	7.21
Philadelphia	1,100,277	321	110	17.67	12.19	2.48	8.68	1.44
Brooklyn	852,157	350	180	22.33	11.60	4.35	11.89	1.16
St. Louis	550,000	173	64	13.68	6.84	2.43	5.13	2.28
Baltimore	500,343	169	64	18.88	14.75	2.36	8.26	5.31
Boston	446,507	165	79	20.65	14.16	.59	15.33	1.77
Cincinnati	325,000	107	57	17.67	10.23	13.02	4.65	—
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	103	39	26.14	13.58	3.48	11.64	1.76
Nashville	68,513	28	14	25.00	17.85	7.11	14.28	—
Charleston	60,145	28	11	22.90	16.11	—	14.28	3.57
Portland	42,000	19	3	15.78	5.26	—	15.18	—
Worcester	84,000	21	9	29.05	16.64	—	22.80	4.76
Lowell	69,695	46	25	32.55	5.51	2.17	19.53	8.68
Fall River	74,351	39	22	33.28	7.68	—	25.60	7.68
Cambridge	69,837	34	14	11.76	11.76	—	5.88	5.88
Lynn	55,684	18	7	38.88	11.11	—	33.33	5.55
Lawrence	44,559	25	11	28.00	20.00	4.00	20.00	4.00
Springfield	44,164	13	7	43.14	7.69	—	38.45	7.69
New Bedford	40,705	19	7	36.82	5.26	—	26.30	10.52
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	7	4	28.56	14.28	—	14.28	—
Chester	27,850	10	3	10.00	30.00	—	10.00	—
Haverhill	27,322	12	3	25.00	8.33	—	8.33	—
Brockton	27,278	—	—	—	—	—	—	—
Tarzwell	20,369	9	3	22.22	11.11	—	22.22	—
Newton	21,375	4	1	25.00	—	—	—	—
Malden	22,984	9	6	22.22	11.11	—	22.22	—
Fitchburg	22,007	9	1	22.22	22.22	—	11.11	11.11
Gloucester	21,262	12	3	—	16.66	—	—	—
Waltham	18,522	5	0	—	—	—	—	—
Pittsfield	17,252	5	4	20.00	20.00	—	20.00	—
Quincy	16,711	9	5	—	—	—	—	—
North Adams	16,067	—	—	—	—	—	—	—
Newburyport	13,914	7	2	14.28	—	—	14.28	—
Woburn	13,491	—	—	—	—	—	—	—

Deaths reported 2,808; under five years of age 1,244: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 642, consumption 344, acute lung diseases 176, diarrhoeal diseases 340, diphtheria and croup 115, typhoid fever 99, whooping-cough 32, scarlet fever 18, malarial fever 18, measles 9, cerebro-spinal meningitis 8.

From whooping-cough, New York 17, Chicago and Brooklyn 4 each, Baltimore 3, Philadelphia, Washington, Lowell and Salem 1 each. From scarlet fever, New York 8, Chicago 3, Philadelphia, Brooklyn and St. Louis 2 each, Boston 1. From malarial fever, Philadelphia and Brooklyn 4 each, New York 3, Baltimore and Charleston 2 each, Boston, Nashville and Newton

1 each. From measles, New York 6, Brooklyn 3. From cerebro-spinal meningitis, Brooklyn 3, Chicago 2, New York, Boston and Washington 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, the death-rate was 18.6. Deaths reported 3,462: acute diseases of the respiratory organs (London) 210, diarrhoea 316, measles 70, scarlet fever 68, whooping-cough 68, fever 47, diphtheria 30.

The death-rates ranged from 13.2 in Bradford to 27.8 in Plymouth, Birmingham 21.2, Hull 19.0, Leeds 17.5, Leicester 20.9, Liverpool 22.8, London 16.6, Manchester, 23.4, Nottingham 13.4, Sheffield 23.5, Sunderland 21.8.

In Edinburgh 17.5, Glasgow 21.3, Dublin 17.3.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 20, 1890, TO SEPTEMBER 26, 1890.

Under the provisions of General Orders No. 43, c. s., Headquarters of the Army, Adjutant General's Office, the post of Little Rock Barracks, Arkansas, will be abandoned, to take effect not later than October 1, 1890. Captain PAUL R. BROWN, assistant surgeon, will accompany Company E to Fort Supply, Indian Territory, and there take station until further orders. G. O. 15, Headquarters Department of the Missouri, St. Louis, Mo., August 11, 1890.

The leave of absence for seven days granted Captain AARON H. APPEL, assistant surgeon United States army, by the commanding officer, Fort D. A. Russell, Wyoming, is extended twenty-three days. S. O. 70, Par. 3, Department of the Platte, September 17, 1890.

Major JOHNSON V. D. MIDDLETON, surgeon, is relieved from duty at Davids Island, N. Y., and will report in person to the commanding officer, Fort Columbus, New York City, for station, report to Major John R. Gibson, surgeon, and report by letter to the commanding general, Division of the Atlantic. Major Gibson, on being relieved by Major Middleton, will report in person to the commanding officer, Davids Island, N. Y., for duty at that station, and by letter to the superintendent of the recruiting service. S. O. 219, Par. 1, A. G. O., Washington, September 18, 1890.

Leave of absence for one month, to take effect the 1st proximo, is granted Captain C. B. EWING, assistant surgeon. S. O. 131, Par. 5, Department of the Missouri, September 22, 1890.

In view of the early abandonment of Fort Elliott, Texas, to which post he is at present assigned for station, Major J. P. KIMBALL, surgeon, is relieved from duty at that post, and will, upon the expiration of his present sick leave of absence, proceed to Fort Supply, I. T., and report to the commanding officer for duty. S. O. 132, Par. 2, Department of the Missouri, September 24, 1890.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held, at 19 Boylston Place, on Monday evening, October 8th, at eight o'clock.

Readers: Dr. Henry R. Stedman, "The Selection of Cases of Insanity for Different Methods of Private Care"; Dr. A. N. Blodgett, "Continuous Inhalation of Oxygen in Cases of Pneumonia otherwise Fatal."

T. F. SHERMAN, M.D., *Secretary.*

RESOLUTIONS ON THE DEATH OF DR. WINTHROP FLINT STEVENS.

At a regular meeting of the Middlesex East District Medical Society, held September 24, 1890, the following resolutions were unanimously adopted:

Resolved, That the members of this Society express their deep sense of the sad details of the late associate, Dr. Winthrop Flint Stevens, a gentleman whose genial disposition, high sense of honor, skill, and unfailing courtesy endeared him alike to his patients and to his professional brethren.

Resolved, That we tender to his immediate family, his relatives, and the families he so faithfully attended, our sincere sympathy and condolence.

Resolved, That a copy of these resolutions be sent by the Secretary to Mrs. W. F. Stevens, and also to the *Boston Medical and Surgical Journal* for insertion there.

[Signed] WM. SYMINGTON BROWN,
A. H. COWDREY,
CHAS. C. ODLIN.

OBITUARY. GEORGE LYLE KINGSLY.

Dr. George Lyle Kingsley, interne at the Massachusetts General Hospital, died, September 23rd, of diphtheria. Dr. Kingsley was born in 1864, at Rome, N. Y. He was graduated at Yale, in 1886, but was a member of the class only during the junior and senior years, having accomplished the work of the

first two years at home with a private tutor. He took high rank in scholarship, but was best known in the college as a collector of Yale memorabilia.

While a student at the Harvard Medical School, he distinguished himself by unusual fertility in the invention and manufacture of mechanical appliances. Readers of the JOURNAL will remember his article on "Calculation of the heart," which appeared in its columns, in 1888, in reference to the estimation of contraction and abduction of the leg in hip-disease. He was specially interested in the application of photography to medicine, and had recently presented to the hospital a small building for photography, with its dark closet and corresponding apparatus.

His diphtheria was of unknown origin, there being no disease of the sort in the hospital, nor other contagious disease, except two cases of erysipelas in another service.

As a house-officer, he had shown himself faithful, industrious and conscientious; by his fellows he was not only honored for his ability, but beloved for his unusual sweetness of disposition. He was a young man of great promise, and his early death is regretted alike by his associates and the general staff of the hospital.

OBITUARY. CORNELIUS D. MOSHER, M.D.

Dr. Cornelius D. Mosher, of Albany, N. Y., school commissioner, physician and public benefactor, is dead. Coming to Albany thirty-five years ago, he entered, as a student, the Albany Medical College, graduating in the spring of 1858. In the fall of that year Mayor G. Thacher appointed Dr. Mosher the corporation district physician, and subsequently he was made police surgeon. In 1857, he was elected a member of the Board of Public Instruction. To him is due the establishment of night schools.

Dr. Mosher was sixty-one years of age, being born in the town of Bethlehem, Albany County, in 1829. He leaves his widow and one daughter surviving him.

BOOKS AND PAMPHLETS RECEIVED.

"That's a Mushroom!" By J. H. Stedman. Rochester, N. Y., 1890.

Seventeenth Annual Report of the Board of Health of the City of New Haven. 1889.

Local Boards of Health in the State of New York. State Board of Health of New York. 1890.

Electricity as the Knife in the Treatment of Pelvic Disease. By W. B. Sprague, M.D., Detroit. 1890.

A Dictionary of Practical Medicine by Various Writers. Edited by James Kingston Fowler, M.A., M.D., F.R.C.S., etc. Philadelphia: P. Blakiston, Son & Co. 1890.

The Constitutional Obligation of Congress Regarding Weights and Measures. By Oscar Oldberg. Read before the American Pharmaceutical Association, at Old Point Comfort, Va., September, 1890.

Description of a Series of Tests for the Detection and Determination of Sub-Normal Color-Perception (Color-Blindness). Designed for Use in Railway Service. By Charles A. Oliver, M.D., of Philadelphia.

Zur Ichthyol-Behandlung von Frauenkrankheiten. Von Dr. Reitmann und Dr. Schönauer, Operateuren an der Gennanen Klinik. Sonderabdruck aus der Wiener Klinischen Wochenschrift, 1890, Nr. 33. Aus der I Universitäts-Frauenklinik des Hofrath Prof. Carl von Braun-Ferwald. Wien: 1890, Alfred Hölder.

The Science and Art of Obstetrics. By Theophilus Parvin, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children, in Jefferson Medical College, Philadelphia, etc. Second edition, revised and enlarged; illustrated with 239 woodcuts; colored plates. Philadelphia: Lee Brothers & Co. 1890.

A Manual of Modern Surgery, an Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time for the Use of Students and Practitioners. By John B. Roberts, A.M., M.D., Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. With 501 illustrations. Philadelphia: Lee Brothers & Co. 1890.

Lecture.**THE SCOPE AND THE TEACHING OF HUMAN ANATOMY.¹**

BY THOMAS DWIGHT, M.D., LL.D.,
Parkman Professor of Anatomy.

GENTLEMEN: In the old days, when the school term was divided into two parts, the winter term beginning about the first of November, lasting some five months, and comprising the essential part of the year's work, it was customary to begin this more serious part with a solemn introductory lecture delivered by one of the professors, attended by the whole school, by the president, by the faculty, and in general by friends of medical education, and those interested in the school. When we changed our system that was given up, and the change was rather characteristic of the spirit of the school. As one of our professors once said, we do not lecture, we teach; and the more formal proceedings have, therefore, gone by the board. Now I am not prepared to say that this was a mistake; but in some respects we feel the want, now and then, of that introductory lecture. It was an occasion on which any change of policy on the part of the faculty could be made public; or if the professor whose duty it was to speak had broad and important views on some matter of education, it gave him an opportunity to declare them before an intelligent and sympathetic audience. I may mention, unless I am mistaken, that the very last of these lectures conveyed an important message: it was that by Prof. J. C. White, which led to the beginning of the graded course, the new method of instruction, which this school may claim to have introduced.

Of course, it occasionally happened in those days that if some gentleman spoke because he had something to say, others spoke because they had to say something, and we have lost the one in escaping the other. It happens to-day that I, at least, think I have something to say, and I am going, therefore, for once to depart from my usual method, which is to begin the course without any shadow of introduction, to say a few words on the scope of human anatomy, to show that, far from being exhausted, it offers many opportunities for original work, that it is closely connected with many questions of general scientific interest, and that it has claims to be considered a part of a liberal education for those who do not study it as the beginning of their profession. I wish also to speak of the means at our command for anatomical study.

In the first place, although it does not form necessarily a part of the subject, let us say a word or two about the subject-matter of our course, that is, man, and how and where we are to place him in the system of Nature. You remember Huxley's celebrated little book on "Man's Place in Nature," a very excellent one — although there are points of importance from which I dissent — in which he said, that to study and to place man, we should consider ourselves in the position of scientific inhabitants of Saturn, to whom this new featherless biped had been sent, preserved it might be in a cask of rum. It seems to me that if we are to study the whole question of man as we see him and meet him as a living being, this is a very one-sided and insufficient view. Let us suppose, by way of

illustration, that there had dropped into this cask of rum an ant and a bee. The learned Saturnians may have had enough zoological knowledge to classify these animals correctly, but they never could have guessed from their structure the wonderful instincts to which they owe the prominent places they hold among animals. In the same way, by studying merely the structure of man, we fail entirely to find his great intellectual capabilities.

To my mind the best definition of man is that of a rational animal consisting of body and soul. In body he is simply animal. Every difference in bone, in muscle, tendon, organs, even the brain, between him and lower animals is entirely one of degree, and not in the slightest one of kind. When, however, we come to him as a whole, we find an immense difference, consisting in the soul, and one that brings him entirely out of the animal category. It may be asked how I should prove my words, whether I have any right to assume the existence of a spiritual part of man, and as I am not here to teach metaphysics, nor philosophy, I shall limit myself to giving you in about two minutes what it seems to me is at once the simplest and the most conclusive evidence, and this is simply the fact, which we know by looking inwards, of the freedom of our own wills. It is a fundamental law of physical science, that, given a certain condition of affairs, a certain cause will infallibly produce a certain result. It will do it once; and, all the conditions being the same, it will keep on doing it indefinitely. It, therefore, has to be accepted as a primary fact, that, given a certain cause, you must have a certain result. Now looking inwards, we see that a given cause does not always have the same result, that we are able to pursue one course or the other, as we see fit. We can see that in a thousand ways, from the most trivial to the most important. We know well enough whether we will listen to a speaker who bores us or to a friend who tells us a story. It is for us to choose. And we may by an act of the will give our attention to one or the other. In the same way, when we study the arguments which are given for and against a certain proposition, it is by a definite act of the will that we decide which one we will accept. I do not forget that there are those who tell us that all this is a delusion, that it is simply that we follow the stronger impulse, and that these impulses are so subtle that we fail to realize it, that when we think we are making a choice, in fact we are not doing so. The only answer to that is to observe for ourselves, and our consciousness tells us that it is not true. And, next, you can find no man who announces this theory who does not at almost every moment of his waking life practically contradict it, because there is no one that in his thoughts and reasonings does not recognize the word "ought," that a man ought to do or to have done such a thing; and unless we give up all idea of right and wrong, we must admit that we have free will. Enough on that point; but it seems to me, gentlemen, that as you are beginning your medical career, in which your patients are to be human beings, it was not amiss to say a word in support of the dignity of man.

Now let us come to the teaching of anatomy proper. It has been said — it was said as long ago as I was a student; for aught I know, it may have been said in the time of Aristotle — that there was nothing more to learn in coarse anatomy; possibly the microscope

¹ An Introductory Lecture to the First Class at the Harvard Medical School, delivered September 29, 1890.

would show us new things, but that in the anatomy studied with the naked eye we had got as far as we could. I want to call your attention first to a few points which have come out even during my time. One is of great practical importance in abdominal surgery. Here is a piece of the intestine. It is called the cæcum, the blind gut; and this, it was formerly said in all works published in France, in England and in America, had the lining membrane of the abdomen, the peritoneum, spread over it so as to cover its upper surface, but it left the posterior surface against the hind abdominal wall uncovered. In point of fact, one had only to look, to see that this was absolutely untrue, that the whole of it is covered, that it is surrounded, as can be proved by the way it can be swung about. It is but very recently that this fact has met with general acceptance.

Again, to show a point at which we still are working: there are given in the text-books certain plans of the distribution of the nerves of sensation on the hands; and you know, of course, that when a nerve that gives sensation is divided, there is no feeling in the parts of the hand to which that nerve was distributed. Well, the experience of the hospitals has been strangely at variance with that of anatomical teaching. It has been found, given a cut that divided a certain nerve, that the place where there was no feeling was in the majority of cases, in the first place, a good deal smaller than the distribution of the nerve; next, that around that place of abolition of feeling there was a neutral territory in which, although sensation was not abolished, it was weakened; and then, again, it was found that in many cases this loss of sensation appeared in very queer localities, not at all corresponding, as I say, to the facts taught in the text-books of anatomy. Now what is the explanation? Recent observations have gone far to show that the trouble is simply a want of accurate knowledge of the distribution of the nerves. The neutral zone, in which there is a little sensation left, is to be accounted for by the fact that the territories of two nerves overlap, and that when one is divided the other one carries on the work fairly well; and the queer displacement of the region without sensation is to be accounted for by the great individual variation of the distribution of nerves. There, gentlemen, is a practical point which has been cleared up to a certain extent by recent studies in Germany, but concerning which there is still a great deal to do; and there are many others. Allow me to allude to one or two in which our work here has not been without results. You see these lines. They are called sutures, by which these bones of the skull are bounded. In the infant the bones are distinct, then they gradually touch one another, points from one bone run in between the points of its fellow, and later bony growth goes across, so that they form really one piece of bone; and ultimately those lines are, or may be, entirely obliterated so as to leave no trace. This has been given as a guide to the age of the skull, and you can conceive that in medico-legal cases this is a matter of great importance. Let me read for you a few lines from the circular sent out by a very important bureau a while ago for the purpose of estimating the age of subjects on which certain anatomical observations were to be made when that age could not be otherwise ascertained, and the method given was that of the skull: "This (the condition of the sutures), it is claimed by anthropologists, affords the most reliable

guide to the determination of the age in such cases. If the sagittal or coronal suture shows bony union, the individual is said to be at or beyond middle life, or somewhere in the vicinity of forty-five years. If sagittal and coronal are joined, it indicates forty-five to fifty years. If sagittal, coronal and lambdoidal are synostosed, the age indicated is said to be from fifty-five to sixty-five; and if all the sutures are obliterated, the age is from sixty-five to eighty years." Well, during the past year or so, gentlemen, we have examined in the dissecting-room one hundred skulls, and all I can say is that there is not the shadow of foundation for these assertions.

Another instance is the breast-bone. It has been given by as great an authority as the celebrated Professor Hyrtl, of Vienna, that the relative length of the first and second pieces is a guide to the sex; that in man the second is more than twice as long as the first; in women it is not. I have examined over two hundred bodies, and, queerly enough, it appears that, although on the average, if you add up all the figures and take the average, the rule holds good, yet in forty per cent., or in two cases out of five, the rule is not true; and, therefore, in the case of deciding the sex of any individual, practically worthless.

Again, you will find in so valuable a work as Gray's Anatomy the statement of the time of union of the different pieces of the middle portion of the bone which originally were distinct. It is said to be completed at thirty-five to forty by the junction of its first piece with the next; and the one below that joined, if I remember rightly, at from twenty to twenty-five; and so on. That again we have investigated; and again we have found that these statements made long ago, I believe in France by Béclard, and copied without investigation from one book to another, are absolutely wrong. These are mentioned as instances of the important truth that even coarse anatomy has by no means been exhausted.

And now I would go on to point out some other aspects of anatomy which we are investigating here, and which not only are not exhausted, but have barely been touched.

I allude, in the first place, to the range of individual variation, from which very important consequences follow. One of the things now studied, and a question most worthy of study, is the effect of certain occupations, certain positions, especially in the young, on bodily growth, and what deformities they are likely to occasion; but before we can do justice to such a study, it is right that we should know what differences naturally occur between individuals on whom there is no reason to look for the action of any particular position. Now look, if you please, gentlemen, at this series of human shoulder-blades. See the difference in shape. If you will take a series from the large animals of the cat tribe (by which I mean lions, tigers, leopards, etc.), you will find decidedly less variation among the different shoulder-blades than you will see here in man. I cannot help thinking that the scientific Saturnian would have been tempted to allot to different species shoulder-blades as different as some of these.

Then, again, and closely connected with this question, is the other of the relation of parts of the skeleton to the figure. For instance, does a broad-shouldered man have a long shoulder-blade, or does he have a short and a broad one? What is the difference in make of shoulder-blade between square and drooping

shoulders? Those are points on which we as yet know absolutely nothing, points which we are beginning to study in a plodding way, for it takes a long time to get observations enough to settle such questions.

Then, as an example of that which has been pretty well made out, let me show you these thigh-bones and these shin-bones. This tibia is a very narrow one, of the kind which has been compared by French anatomists to a sabre blade, thin and sharp, found much oftener in prehistoric skeletons than nowadays, when it is found more generally in savage races. It has been shown that this narrow shin-bone is usually accompanied by what is known as the pilastered thigh-bone, one in which there is a good deal of curve and a strong, prominent ridge coming down the back. We have still to learn, however, what relation, if any, there is between the degree of hollowness in the back and the forward inclination of the neck of the femur.

Then, again, besides these questions of individual variation within normal bounds, there comes that of anomalies where there is some structure which, normal in animals, is not normal in man. Here, for instance, is the lower end of a humerus with the projection called the supracondyloid process, which in the fresh state was connected with this inner condyle by a ligament, so as to make an opening through which undoubtedly passed an artery and a nerve. That is the normal condition in many animals. Again, here on this thigh-bone is a well-marked, little rounded knob in a place where usually there is but a slight roughness. That is what is known as the third trochanter, and that corresponds to the prominence of that name which is found in the odd-toed ungulates, such as the horse, the rhinoceros.

It is too much the custom to try to account for anomalies by calling them reversions. Some are very hard to explain according to any system of descent. The whole question is one of great scientific interest. But the study of certain anomalies is of great practical importance. It is worth while for a surgeon to know that the irregular origin of a certain artery will bring it in the line of his knife, concealed till he cuts it in an important operation. It is well for him to know that the tendon of a certain muscle, but rarely developed, may go across a large artery at the place where he would be looking to tie it. Those are points which we are working up in the dissecting-room, and in which I hope to have your friendly assistance. It is a field in which the work of the student, as an adjunct to that of the teacher, is of the greatest importance.

Then, again, there are very interesting points in mechanics to be studied in the human body, more interesting still when we compare them with the arrangements in animals. It was our lamented Harvard anatomist, the late Prof. Jeffries Wyman, who called attention to the arrangement of the internal structure of bone to an architectural plan. This fact had indeed been partly seen before. It, however, has been since rediscovered, and his claims have been entirely ignored. He, however, pointed out the systems of "studs and braces," more recently called "struts and ties," in the internal structure of bone, a point on which I shall have more to say very soon, which today I only allude to. Here you have the human femur, the one to which he attached particular weight. Here we have the humerus and the femur, here is the anterior and the posterior extremity in chimpanzee, in gorilla, in lion. Here are heads of the humerus in

which you can see changed, but still there, the same general type of internal structure, with its peculiar mechanical advantages, in man, in the whale, in the dog and in the seal.

Now, gentlemen, I would not have you infer from this that it is at all my intention to lead you through the pleasing by-ways of abstract science. I entirely agree with Professor Huxley, who said in one of his addresses, that he considered that man guilty of a great offence who added one title to medical education that was unnecessary, that it was of less importance to know where quinine comes from, than where it is retailed cheapest. You may be sure that I am not going to lead you from more practical studies into the investigation of disputed points. These are questions which must not be allowed to turn us aside, in the regular course, from more elementary and technical work. Nevertheless, they may, perhaps I should say they must, be glanced at in passing; and they offer profitable and attractive lines of research for those to whom they are congenial, especially for those, if there be any such, as are following this course with a view to general culture rather than to practice.

And now, gentlemen, let me go on to the means of studying anatomy. Let me tell you what we have to offer, and give such advice as I may. In the first place, of course, there are the lectures. I have heard it asked what lectures are good for when the student can read it all in the book. With deference I would say, that good lectures are those which the student cannot read in the book, that it is particularly the duty of the teacher to point out those things which are of fundamental importance, to allude to and to pass more lightly over those of secondary. Moreover, by his experience he should be able to make clear points, which, however well described in the book, remain obscure; and finally, as much as possible, there should be absolute demonstrations of the points involved on the bones or on the subject, and in cases where these points are too minute to be seen at a distance, they should be made clear by means of models and diagrams. Our collection of models is one which we are very proud of, and as they are comparatively new—indeed, I have some to show you this year that never have yet been used—I venture to say just a word or two about them. Here we have the two top vertebrae of the spine. They are enlarged six times, if I remember rightly, and made with the greatest accuracy, from particular models, under my own eye. And we have others of all the great bones of the extremities and of the spine.

Then, besides the lectures, there are the recitations; and it is my object to divide the classes as much as I can on different occasions, up into small sections so that they may have the advantage in the recitations, which are always meant to be informal, of seeing things close to, of handling the specimens as much as possible, and of asking questions; and I should like to impress upon you very seriously the great value of recitations as making clear what any lecture may at times leave somewhat misty.

The system introduced by Dr. Holmes, but which now has attained to much greater development than in his time, is that of giving out bones. We have parts of the skeleton placed in boxes, which you are able to take out, to carry home to keep for a certain number of days, and then to return; and more than that you have an opportunity to take the same bones when you have time for an hour or so to study them in the build-

ing; in short, you may draw a bone very much as you would draw a book at the office of the circulating library. I need say nothing more of the importance of always studying bones and, as far as may be, everything else on the specimen itself.

Then, again, we have the dissecting-room in which, however, you will not begin your work quite as yet; and I say little of that lest I should take up your time in saying too much, because it is a matter of such vital importance for the learning of anatomy. There is only one thing I will say, and that is that the work should be done seriously and thoughtfully. It is not enough to uncover a part; if a man is too lazy afterwards to study what he has uncovered he may as well leave it undone. As one of our former demonstrators, Dr. R. M. Hodges, in his little book on "Practical Anatomy" says, "You should know what the books say, and cross-examine them in the presence of the subject."

There is, then, besides the course that I am giving to this class, the course which I give on Advanced Anatomy to the second-year students. That does not concern you, excepting that I have always thought it wise that a student should imbibe as much anatomy as he can; and though I would never have you neglect anything else for it, when you have a spare hour at the time of that lecture, I believe it may be very profitably employed there.

Then, again, there are the very excellent demonstrations of more or less Applied Anatomy given by Professor Richardson up-stairs. Those are open to the whole school. They are subject to examination to the second class, not to the first, but open to all; and for the same reason those should be very fully attended.

As for Histology I say little, but it is an important branch of anatomy. Prof. C. S. Minot will speak to you of that. I will only remind you that the lectures on histology form part of the subject-matter for the examination in anatomy at the end of the first year.

Another important method of study is the use of the museum. We have here collections of which we are very proud. In all respects they are by no means perfect, but in some they are very good. Our collection of bones in the museum is a very complete one, and we are beginning to place into series the bones illustrating the points that I have spoken of. This spine for instance, is a unique specimen, showing certain peculiarities which I will not now describe; it stands at the end of a line of some dozen others, all of which show less striking variations from the usual arrangement. We have a series of beautiful dissections of joints. There are many frozen sections, some mounted, some unmounted. We have a collection of corrosion preparations unrivaled by that of any school in this country, and which, I imagine, has few rivals in Europe, I certainly have seen none in England or France.

I regret that the museum has never been utilized as it should be as a place for study. It is a place where much may be learned.

—The *Medical Press*, July 30, 1890, complains that in England the announcement of a marriage or a birth is followed by confidential letters, offering, in exchange for the sum of one guinea, information bearing on the means of preventing any addition to the family circle.

Original Articles.

CONSUMPTION IN MASSACHUSETTS.

BY J. M. FRENCH, M.D., MILFORD, MASS.

CONSUMPTION — like the poor, we have it always with us. From infancy to old age it claims its victims. From the tropics to the poles it carries off nearly one-sixth of the human race. No physician but has it to meet, and none but dreads it; no one but feels well-nigh helpless before it.

In the belief that any progress we may make towards conquering this dread scourge must come more from the study of the means of prevention than those of cure, I have been deeply interested in studying some of the antecedents of consumption, and especially the influence of environment upon its prevalence. In the studies, the results of which I present here, I have confined myself chiefly to Massachusetts, both because here it is that we have to deal with it, and because the necessary statistics were conveniently at hand.

These statistics have been obtained mainly, but not entirely, from the United States census returns and the Massachusetts Registration Reports. I am aware that they include various sources of inaccuracy, and, perhaps, even of fallacy. For example, we know that the record of the causes of death, as kept in many towns, is both incomplete and inaccurate; and that the term "consumption," as there used, undoubtedly includes, not only the different varieties of pulmonary phthisis proper, but also many cases of chronic bronchitis, chronic pneumonia, and other allied diseases. But making all allowances for these and other defects, I can only say of the statistics I have presented, that they are the best that I could obtain, and that I believe there is much to be learned from them.

First, then, as to the *mortality* from consumption in Massachusetts: For the period of forty-six years and eight months, ending December 31, 1887, consumption has been the cause of 209,056 deaths in our little Commonwealth, while only 75,189 deaths have resulted from pneumonia, 60,384 from old age, 55,394 from cholera infantum, 46,793 from typhoid fever, 46,699 from violence, and 46,201 from heart disease — nearly three times as many deaths from consumption as from any other single cause, and about one-sixth of the deaths from all causes.

During the five years, from 1883 to 1887 inclusive, 15.45% of the whole number of persons dying, or 3.03 out of every 1,000 persons living, have been carried off by this dread disease.

According to the census of 1880, the mortality from consumption throughout the whole United States was 12.05% of the entire mortality, or less than four-fifths as great as it was in Massachusetts alone during the years mentioned. In the other New England States, also, the proportion is less than in Massachusetts, though greater than in the United States as a whole. Thus, in New Hampshire, it was 13.57% of the entire mortality; in Vermont, 13.63%; in Rhode Island, 13.82%; and in Connecticut, 12.21%.

The questions arise, Why this excess in Massachusetts? What are the conditions specially favorable to the prevalence of phthisis in this State more than in her neighbors in the body politic? Why are there more deaths from this disease in one locality than in another? And these are questions of importance if we would hope to lessen this enormous death-rate.

We need to know the haunts and habits of our enemy, his strongholds and weak points, before we can hope to conquer or exterminate him.

Before seeking farther for the answers to these questions, let us consider three of the antecedents of phthisis, which are not, presumably, influenced to any great degree by locality; namely, *age, sex and season*.

The following table shows the number of persons, at the different ages mentioned, out of every 100 persons of all ages dying of consumption in Massachusetts for the twenty-five years from 1863 to 1887 inclusive:

Under 5 years of age	5.45
5 to 10 " " . . . . .	.97
10 to 15 " "	1.83
15 to 20 " "	9.28
20 to 30 " "	28.72
30 to 40 " "	19.36
40 to 50 " "	12.56
50 to 60 " "	8.27
60 to 70 " "	7.35
70 to 80 " "	4.46
Over 80 " " . . . . .	.59
Age not stated . . . . .	.36
<hr/>	
	100.00

If, now, for the same period of twenty-five years, we divide the entire population into classes according to their ages, we find that out of every 1,000 persons living at each age there died from consumption as follows:

Under 5 years of age	17.55
5 to 10 " "	3.19
10 to 15 " "	6.34
15 to 20 " "	31.49
20 to 30 " "	49.36
30 to 40 " "	42.98
40 to 50 " "	36.36
50 to 60 " "	36.45
60 to 70 " "	48.63
70 to 80 " "	62.06
Over 80 " "	44.73

It is from tables, such as the first of these, that there has been derived the popular notion — which has, to some extent, obtained among the profession as well — that the liability to death from consumption is greatest between the ages of twenty and forty, and that after the latter age this liability is constantly decreasing. In point of fact, the table proves no such thing. What it does show is that the actual *number* of deaths is greatest at this period of life; but this may readily be accounted for by the fact that there are more persons living at this age than at any subsequent one, and hence more to die. That this is actually the proper explanation is shown by the second table, whereby we find that the *proportion* of deaths is nearly as great from sixty to seventy as from twenty to thirty, and actually greater from seventy to eighty than at any other period of life. It is very probable, however, that a larger proportion of the deaths attributed to consumption at the later periods of life are from the more chronic forms of the disease, including many cases of chronic bronchitis and chronic pneumonia, and which, at all events, are not dependent upon heredity for their origin.

Passing now to the consideration of *sex*, I find that from 1883 to 1887, inclusive, 29,452 persons died in Massachusetts of consumption, of whom 15,978 were females and 13,474 males — a proportion of about 119 females to every 100 males.

In forming conclusions from this table, it must be remembered that, at all those ages when consumption

is most fatal, the actual number of women living, at least in Massachusetts, is considerably in excess of the number of men. Furthermore, it is probable that the excess of deaths of females from consumption is due largely to confinement indoors, lack of proper exercise, breathing impure air, improper modes of dress, and contagion — from all of which causes women suffer more than men — rather than from the element of sex in itself considered. Give a woman a man's conditions, and there is little reason to suppose that she would suffer more than he from this disease.

As to *month and season*, during the five years aforesaid, the number of deaths from phthisis in the different months was as follows:

January, 2,490	First quarter, 7,745
February, 2,437	
March, 2,809	Second quarter, 7,178
April, 2,601	
May, 2,672	Third quarter, 7,148
June, 1,905	
July, 2,359	Fourth quarter, 7,271
August, 2,407	
September, 2,382	
October, 2,283	
November, 2,292	
December, 2,396	

This table shows that the greatest number of deaths in any one month, 2,809, occurred in March; and the least, 1,905, in June. The first quarter shows the most, 7,745; and the third the least, 7,148; but the difference is so slight, and the distribution throughout the year so uniform, as to make it evident that the season exercises but little controlling influence.

We come now to the consideration of the geographical distribution of the disease, and the study of those elements which determine this distribution — which show why it prevails more in one portion of the State than in another, and by inference, also, in any one locality more than another.

The Registration Report of Massachusetts for the year 1860, I think, contained a paper, prepared by George Derby, M.D., on "The Geographical Distribution of Consumption in Massachusetts." In this paper, the author gave a list of all the towns in the State, with the population of each in 1860, the number of deaths from all causes in ten years, the number of deaths from consumption in ten years, the percentage of deaths from consumption compared with the deaths from all causes, and the average number of persons living each year to one death from consumption. This is followed by a list of the towns having the greatest, and another of those having the least, comparative mortality from consumption. Concerning these last two groups, he says: "We have earnestly endeavored to discover in what respects each of the above groups of towns has common characteristics, and to find broad distinctions, separating one group from the other. That we have failed to satisfy our own mind is, perhaps, not surprising, since the solution of such a question requires an intimate knowledge of a multitude of facts which we do not possess. That causes are in existence for the results given above seems certain, and we commend the comparison of towns and districts to observers throughout the State, confident that what is now obscure will, at some future day which we hope and believe to be not far distant, be apparent to every one."

As I read this paper, it occurred to me that the results might be more satisfactory if we were to begin

at the other end of the problem, and try analysis rather than synthesis; if, instead of contrasting towns having a high mortality with those having a low one, with a view to determining the conditions which give rise to this difference in mortality, we were to compare places possessing certain well-marked and important characteristics and conditions with others possessing opposite conditions, in order to determine what is the effect of these factors upon the mortality.

Acting upon this idea, I proceeded to divide the State into five districts, or groups of towns, upon the basis of topographical features, chiefly *altitude* and *soil-moisture*; and secondarily, atmospheric moisture, prevailing winds, nearness to the ocean, etc. As I was not in possession of data which would enable me to make the distinctions any more exact, I was obliged to make my divisions along the broad lines of the counties. Acknowledging the imperfection and inexactness of these divisions, I shall claim the right to draw only the most broad and general conclusions from the results obtained; and even these results may be looked upon as suggestive rather than determinative.

Having found the proportionate mortality in each group as a whole, for the years 1883 to 1887 inclusive, my results were as follows:

GROUP I.—THE HIGHEST LAND (Berkshire County).

12.95% of the whole number of deaths.
2.17 per 1,000 persons living.

GROUP II.—THE CONNECTICUT VALLEY (Franklin, Hampden, and Hampshire Counties).

12.29% of the whole number of deaths.
2.56 per 1,000 persons living.

GROUP III.—HEART OF THE COMMONWEALTH (Worcester County).

11.86% of the whole number of deaths.
2.89 per 1,000 persons living.

GROUP IV.—THE ATLANTIC COAST (Essex, Middlesex, Norfolk, Suffolk, Plymouth, Bristol, and Barnstable Counties).

15.77% of the whole number of deaths.
3.12 per 1,000 persons living.

GROUP V.—THE ISLAND COUNTIES (Dukes and Nantucket Counties).

11.17% of the whole number of deaths.
2.91 per 1,000 persons living.

WHOLE STATE.

15.15% of the whole number of deaths.
3.03 per 1,000 persons living.

According to these figures, Berkshire County, which consists of the highest land in the State, has the lowest death-rate from consumption, both as compared with the total population, and also, with one exception, as compared with the total mortality.

Next in order, in both respects, stands the Connecticut Valley, with its lower land, but porous, sandy soil, sunny, and well-drained. Then comes Worcester County, midway between the Berkshire Hills and the sea. Highest of all stands the Atlantic Coast Region, with its lower lands, marshy soil, and moist sea breezes.

The island counties present at first sight a seeming exception, in that the proportion of deaths from consumption to the total number of deaths from all causes is only 11.17%, or the lowest of all. But when we turn to the more important comparison with the total population, we find that it is not that fewer people die of consumption, but rather that more die from other causes; for 2.91 deaths from phthisis occur to every 1,000 persons living, which is a larger proportion than in any other group, except the Atlantic Coast Region.

It is quite certain that a part of this difference in mortality from consumption in different parts of the

State is due to other causes than geographical conditions, some of which I shall shortly consider. Nevertheless, it seems to me that both the distinctions made and the results obtained are sufficiently well marked to justify the conclusion, that a moderately high altitude, with dry air and soil, tends to lessen the death-rate from consumption, while the opposite conditions tend to increase it.

The next point I have considered, and one which largely affects the distribution of the disease, is *density of population*. For this purpose, I made two series of calculations. For the first, I made use of the before-mentioned table of Dr. Derby, based upon the census of 1860. Here I again divided the State into five groups of towns, but this time on the basis of density of population. As I was unable to make allowance for the difference in area of the different towns and cities, but was obliged to consider each as a unit, and divide according to the total population, an element of inaccuracy is introduced, which, however, is so slight that I do not think it will in any way affect the general result.

In the first group I put Boston, the only city in the State having over 100,000 inhabitants. In the second group, all cities and towns of from 10,000 to 100,000; in the third, towns of from 5,000 to 10,000; in the fourth, those of from 1,000 to 5,000; and in the fifth, all towns having less than 1,000 inhabitants.

Comparing the yearly number of deaths from consumption in each group with the total population in 1860, the results are as follows:

Group I, 100,000 and over	1 in 229
Group II, 10,000 to 100,000	1 in 249
Group III, 5,000 to 10,000	1 in 295
Group IV, 1,000 to 5,000	1 in 306
Group V, under 1,000	1 in 345

This shows regularly decreasing mortality, corresponding to the decrease in density of population. Not content with this, I proceeded to make a second series of calculations, based upon the Massachusetts census of 1885, and using the same divisions, with the following results:

Group I	1 in 248
Group II	1 in 330
Group III	1 in 362
Group IV	1 in 385
Group V	1 in 427

These results confirm the first, showing absolute conformity to the same general principle. I, therefore, assume the law to be proven, so far as statistics from one State can prove it, that the mortality from consumption increases as the density of population increases.

These two series of calculations, taken together, show one other notable and encouraging result, namely this, that the mortality from consumption in Massachusetts is slowly but steadily decreasing. According to the census of 1860, the average annual mortality throughout the State was 1 in 270 persons living; while, according to the census of 1885, it was only 1 in 326, a most encouraging decrease. Further statistics, taken from Massachusetts Registration Reports, show that the mortality at different periods was as follows:

1853	1 in 234
1854 to 1863	1 in 237
1866 to 1870	1 in 299
1871 to 1875	1 in 304

1876 to 1880	1 in 208
1881 to 1885	1 in 320
1887	1 in 331

These results bear out those before obtained, and encourage us to hope for a still further improvement. They also call our attention to the causes of this improvement, which are well worthy of the attention I cannot give them at present.

To the considerations already advanced as affecting the geographical distribution of consumption, should be added a study of the effects of *occupation* and *nationality* upon the mortality from the disease. But upon these points I have not been able to find any Massachusetts statistics worthy of presenting. I, therefore, merely call attention to them as worthy of further investigation. When the facts are all in, we may hope for definite and uniform conclusions.

INFLUENZA IN THE OUT-PATIENT SERVICE OF THE BOSTON CITY HOSPITAL.¹

BY E. M. BUCKINGHAM, M.D.,
Physician to Out-Patients.

HAVING been upon service in the Out-Patient room during the late epidemic of influenza, it appears proper that I should report the cases seen there, in order to complete the history of the epidemic in the hospital, which has already been made for the wards by Dr. Mason.² In so doing I shall make use of my private cases when convenient, although the two sets of cases ought probably not to be grouped together; since the ordinary run of patients were probably sicker than those coming to the out-patient room. It is true, however, that many of these last had been quite sick, and applied for help only when capable of going out; but before they had forgotten the history of the previous days.

There were in all seventy-four cases of influenza, not including sequelæ; and of these there are very complete records of forty-eight, for which credit is due to the then externes, Drs. Whittemore and Haskell up to January 7th, and Drs. Dwight and Fuller for the later histories. None are recorded as presenting themselves before the fourth day, and in general they ranged from four days to two weeks, when first seen; while many of them did not make a second visit; thus agreeing with the common observations as to the duration of the disease, and as to its greatest severity being during the first few days. There was one case at sixteen days; there were three cases at three weeks, in one of which three, cough, and in another pain, were the only remaining symptoms; and there was one case of insomnia and anorexia at five weeks. Up to the present time, cases not of influenza, but which began as influenza, still show themselves, the patients complaining, for the most part, merely of debility.

It is of great interest with reference to the question, whether the disease is contagious or not, to note the dates of the early cases. I have been told of cases in November. My own first case sent for me on the third of December, having had some soreness since November 29th. My next case dates from December 17th. Dr. Mason states that the first admissions to this hospital were December 10th. Dr. F. C. Shattuck³ saw

his first case on the same day. None are recorded in the out-patient room before December 24th, when there were five cases, one dating from the 16th. It was between December 20th and December 23d, that the number of admissions to the wards rose rapidly, as shown by Dr. Mason. The admissions to the out-patient service, which is open three days in the week, were as follows:

December 24	5 cases.	January 7	6 cases.
December 26	6 "	January 9	5 "
December 28	9 "	January 11	4 "
December 31	8 "	January 14	6 "
January 2	11 "	January 17	1 case.
January 4	12 "		

Many of the later cases were somewhat old; and there were three more cases, one of them being a relapse, and all dating back previous to January 17th. There is nothing in all this comparable to the undoubtedly correct stories of whole ships' companies being attacked on the same day in previous epidemics, a difference which, supposing the disease to be contagious, can be readily understood by any one who has seen the quarters of sailors on men-of-war, and thinks what they must have been without ventilation.

Symptoms. Of the various symptoms, not all of which were present in all cases, nor always at the same time, headache was, perhaps, the most constant and most persisting, existing more or less in almost every case, and being sometimes of great severity. Pain in the back was quite constant, and ranked next in order. Pain in the chest was common, and I think that no part was exempt. I have several notes of a general bruised feeling. Pain was generally an early symptom. It by no means always disappeared with the beginning of convalescence, and it sometimes remained after all other symptoms had gone. Headache may have been sometimes due to coryza, but was occasionally severe without it. Sore throat was far from being as universal as pain in the back and head. At times the tonsils, and at times the pharynx, were inflamed, sometimes severely, sometimes slightly; but it appeared to me that the complaint of sore throat was not infrequently greater than was warranted by the appearance of the parts, and that in some cases it was a part of the general neuralgia quite as much as of an acute inflammation.

There was no complaint of earache in a single case; but this was certainly due to its being a prominent symptom, when it existed at all, thus leading patients to seek the ear clinic. One baby I sent there for examination. Among the forty-nine private cases of influenza that I saw, were two cases of earache, one trifling and temporary, and one dependent on inflammation of the middle ear. There were also two cases of deafness from this cause in patients neither of whom had been sick enough to seek advice, but each of whom had much coryza. They got well slowly, and were advised to seek special advice.

Coryza was very general, but not universal. Dr. De Blois was kind enough to examine one of these patients without nasal discharge, by means of the rhinoscope. He reported very acute congestion. Unfortunately this case did not reappear. It may have developed a discharge later. Epistaxis was present in one case only among the seventy-four, and there was one case of bloody mucous discharge from the nose; the patient had laryngitis, as shown by the voice.

¹ Read at the Boston Society for Medical Observation, May 5, 1890.

² Boston Medical and Surgical Journal, February 13, 1890, p. 145.

³ Boston Medical and Surgical Journal, February 13, 1890, p. 148.

Cough was complained of by about half the patients. Sometimes it was mild, and sometimes very severe, the signs in the chest being also of varying character—from very slight to loud, whistling rales. I cannot, however, recall or find a record of more than one adult whose cough was severe without having something in the chest to more or less explain it. At the same time there may have been such; and possibly the cough may have been out of proportion to the signs in some cases. Certainly the disparity between signs and symptoms did not strike me as in the case of sore throat. Some patients had the expectoration of bronchitis, and others but very little. Cough was quite often a later symptom. It may have depended in part, and probably did in certain cases, upon the condition of the naso-pharynx—such cases, for instance, as the one examined for me by Dr. De Blois, and reported to be intensely congested. At the same time many patients coughed more by night than by day, pointing, perhaps, toward the nervous element in the disease. So far I have confined myself to adults. Among children, but most of the children that I saw were not at the hospital, there were cases of considerable cough, but with absolutely no signs in the chest. I should suppose that here the cough was largely of nervous origin, as has been suggested by Dr. Rotch.⁴

Chill was recorded in a little over a fifth of the cases, and probably existed in others, and was sometimes severe. At times it was the first symptom, but it has begun as late as the fourth day in cases that did not have pneumonia.

Vomiting was recorded once only, and nausea a few times. It did not appear to be worth while to record either in out-patients, except when they were initial symptoms, as they might easily have been due to indiscretion. Both undoubtedly existed in others as purely nervous symptoms. I saw a number of such cases in private.

Delirium was, I think, a not uncommon symptom, especially at night and in children; yet there were not many records of it in this service, probably because it had not been observed by the patient himself, and there was no one to tell his story.

Like other symptoms it sometimes was early and sometimes late; sometimes it was very early. A police-officer told me that he went upon his beat well and hardly knew enough to get home when relieved. Dizziness occurred in a number of cases. A few of my private patients complained of being very faint, but none at the hospital. Anorexia was universal, and insomnia seems to have been so in the last of the epidemic. The record does not so state during the early part. I had not observed this distinction until working up this paper; and I do not understand it, for my private case books show no such difference as to time.

I saw one case of bronchial asthma in a man who had had it before, and in whom it survived the rest of the attack, and one other case of severe dyspnea, apparently of nervous origin.

Prostration was extremely common; perhaps some debility was universal, and it was at times severe. Cases of feeble and intermitting pulse from shock did not come to the out-patient room for obvious reasons, but I have met them outside. One patient whom I saw at his house, fell to the floor from weakness on stepping out of bed in the morning, and yet recovered

enough to go to New York on business at the end of a week. In many cases prostration, however, lasted a long time.

There were a few cases of diarrhoea and two of bloody dejections; one of them probably lost blood from haemorrhoids, but the other had a bloody mucous in the dejection, and probably came from an intestinal catarrh.

Although not a hospital case, I want to refer to a man with vomiting, abdominal pain and tenderness, who made me think of peritonitis, but who had, I think, influenza and nothing else. Recovery was complete in two weeks.

Two of the seventy-four cases had pleurisy, one early in the epidemic: the other has an effusion, and has never been well; although not under observation since his attack of influenza at Christmas, until a few days ago.

Out of the one hundred and twenty-three cases from all sources that came under my observation, four had an eruption, one came and went between two visits so that I did not see it. This patient was taking quinine. The other had an eruption of red papules, with abundant marks of scratching on the breast, and it was said elsewhere. This lady had been sweating freely, and I thought it was a papular eczema from that cause. She was also taking quinine. Yet another woman had an eruption that might have been measles. I only saw her once. She had had no treatment whatever. One man, who had had measles as a child, had influenza two weeks, so he said, and then having nearly recovered, had a severe chill, with prostration, so that he staggered in the street, and an outbreak which was very faint but which resembled measles and had its course, except that there is a doubt as to whether it began on the face or arms. He returned to show that he was getting well, and proved to be desquamating. This looks like a complication of measles and influenza.

The highest temperature was 104° in a baby, increasing to 105° in a week; then the case was sent to the ear-room for examination, and unfortunately I have not its later history. As a rule, temperatures in these out-patients were much lower when I saw them, although many remained slightly elevated for two weeks or possibly more. In general, I think that the severity of the cases is often much greater than is indicated by the thermometer.

Children.—During the whole epidemic, few children were presented for examination; and the Out-Patient Department of the Children's Hospital had a rather light service at this time. This may have been in part due to sickness on the part of parents, but I think not wholly so. The essential difference, so far as there is one, between influenza in children and adults, so far as my own observation went, is that the nervous disturbance is greater in children, although they are not free from catarrhal symptoms.

During the whole epidemic there was an increased number of patients applying for the first time to this department; yet had the influenza cases been eliminated, the number would have been smaller than in the corresponding time a year earlier.

A large number of non-influenza patients had bronchitis. Several cases of chronic bronchitis applied, who were coughing more than usual, but who could not be said to have influenza. Of course, many of them were not seen again, and some of them may have

* Boston Medical and Surgical Journal, February, 1890, p. 156.

been in the initial stage of influenza. Some of the bronchitis starting with this disease was quite persistent.

Pneumonia does not come within the scope of this paper.

Cases with debility and nothing else, continue to present themselves.

The relation of this disease to phthisis is quite interesting. A number of patients with consolidation and symptoms, which symptoms began with influenza, have presented themselves since the epidemic. Whether the bacilli found a prostrated patient, or, on the other hand, a phthisical patient had little power of recuperation, or whether again there is a yet closer connection, does not appear. During the epidemic a few patients applied with influenza and phthisis together, but who had not previously known that they were sick. They were much prostrated. The records are remarkably silent as to the old phthisis patients of the hospital as affected by the epidemic. Possibly some of them are dead, or are now too sick to continue to be out-patients. In this connection I am tempted to add the history of the four phthisical patients of mine outside the hospital, who suffered from the epidemic. One I have not seen since. One, a young man with a small consolidation at the right apex, but no active symptoms for three years, had influenza severely. During the height of it, he had a very few rales only in the old place, together with severe pain in that side. He got over his rales, and assured me last week that he is as well as ever. One gentleman of fifty, with trouble in each lung slowly progressing for I think seven years, had influenza severely, and shortly after had a hemorrhage. He made a slow recovery, and seems about as usual. One girl of twenty, with advanced disease but earning her living, was in bed for weeks, and can now just crawl about.

The only other complication except measles, which I have already spoken of, is cystitis. A patient who had recovered from this had a return coincident with influenza, and began to recover again as that passed off.

There were three relapses with a week of health between. I have seen a larger number outside the hospital, and feel quite sure that there is a greater danger of relapse in those who are imprudent during convalescence. I have seen nothing of the three and four returns which are said to occur. It is well known that the epidemic had a somewhat sudden end, as is usually the case; and as is also usual, there are said to be occasional cases after it. Of this there seems to be no doubt. I myself have not seen them unless I had a case in my own person so late as April 19th. That attack I certainly should have called influenza had it been earlier.

Treatment.—I have given much quinine, and am entirely uncertain whether it controls pain or not. I have thought that it might help support a much prostrated patient, but have in those cases generally given alcohol as well. It certainly seems to be of service during the weakness of convalescence. Salicylate of sodium, which I stumbled upon through mistaking an early case for rheumatism, has, I believe, a good effect upon the pain. Antifebrin was only used in a few of the later cases. It seems to be of some use in controlling pain. The earlier headache, and, perhaps, the earlier sleeplessness, seem to be helped by bromide of potassium. I think that Dover's powder is useful, not only in relieving pain, but in relieving cough. Sul-

phonial seems to secure sleep to some patients who would not otherwise have had it. A few patients had taken more or less active cathartics before coming under my observation. The late Dr. Austin Flint was of opinion that in young and strong patients a "brisk purge seems to be useful." I have, therefore, given a purge, not particularly brisk, to a few patients with stuffed heads, and at the beginning of the disease. I must add that it sometimes seems to be useful, but not always; nor is the good effect always permanent, while it is not a treatment that I have cared to repeat in so debilitating a disease.

LATERAL DEVIATION OF THE SPINE AS A DIAGNOSTIC SYMPTOM IN POTT'S DISEASE.¹

BY ROBERT W. LOVETT, M.D., BOSTON.

LATERAL deviation of the spinal column as a symptom of Pott's disease, up to the present time, has been allowed very little significance or importance. Rarely spoken of at all, when it has forced itself upon the attention it has been considered as an occasional symptom of no especial significance, occurring rather uncommonly, and probably due to the wearing away of the vertebral bodies more on one side than on the other. The only article which deals with the subject at all as its importance warrants is the one by Dr. Bartow, in the *Annals of Surgery* for July, 1889, to whom I am indebted for most of my ideas in the matter. He called attention to the existence of lateral deviation of the spine in most cases of dorsal and lumbar Pott's disease, insisting particularly upon the presence of rotation of the spine. And he made the characteristics of the deformity very plain by a series of admirable illustrations.

In the last nine months I have examined with regard to the existence of lateral deviation nearly every case of Pott's disease that I have seen, and I have been able to secure detailed and accurate measurements of some thirty cases. It is the results of these observations that I shall have the pleasure of briefly presenting to you.

The striking fact that at once presented itself in the observation of these cases was that lateral deviation of the spine was amazingly common. In fact it seemed, in all stages of the disease, to be almost universal in some degree. The notable exception being cases that were progressing particularly well under conservative treatment, and certain cured cases where evidences of active disease had ceased. But in the cases taken as they came first to the clinic, before treatment was begun, the presence of lateral deviation was universal.

Cases of cervical disease showed the least characteristic deformity; although inasmuch as the head was generally held obliquely to one side or the other, a certain compensatory twisting of the trunk was necessitated, but it lacked the characteristic features of the deviation when the disease was lower down in the spinal column.

I am aware that in asserting that a perceptible degree of lateral deviation of the spine is a uniform symptom of early dorsal and lumbar Pott's disease, I run the risk of awakening scepticism, and I can only ask that you will carefully examine cases with this in

¹ Read before the American Orthopedic Association at Philadelphia, September 18, 1890.

view. The kyphosis, the antero-posterior curvature, is so much the more important matter that attention is apt to be directed solely to that, and lateral deviation naturally enough escapes attention, except when it is so severe that it becomes difficult to fit a brace or the attitude is notably unsymmetrical.

But if the child be stripped and inspected from in front, when standing as squarely as he can hold himself, it will be found that a perceptible degree of deviation of the spinal column is present. On account of the sharper and more definite outline which the front aspect of the body presents, any deviation is much more noticeable to an observer standing in front of the child than when behind him. So that when from behind it seems scarcely noticeable, from in front it becomes a marked deviation of the whole trunk.

The characteristics of the deviation are not like those of rotary lateral curvature. The whole aspect of the trunk is different, it has not so much the look of sinuous distortion as of a distinct leaning of the body to one side or the other. Rotation is not a prominent factor.

In the larger number of cases, for some reason or other, the inclination of the trunk is to the right rather than to the left, although not overwhelmingly so. Possibly it may be associated with the more constant use of the right arm.

This lateral deviation would seem to be one of the earliest symptoms of Pott's disease. In two or three of the cases observed it was distinctly recognizable when the other symptoms were slight and ill marked, and was associated with a very slight degree of muscular rigidity, which alone would have been altogether insufficient to establish the diagnosis of Pott's disease.

By the kindness of some of my assistants at the Children's Hospital, particularly Dr. Goldthwaite and Mr. Lund, I have been able to measure accurately some thirty cases of Pott's disease, which were taken consecutively as they came to the out-patient clinic, and were not selected for the existence of lateral deviation, or for any other reason. They represent unselected cases, mild and severe, at all stages of the disease.

The apparatus by which the measurements were taken was a very simple one, consisting of an elastic steel pelvic band which was buckled about the pelvis at the level of the anterior superior spines, and to the middle of this at the back just over the sacrum, was attached by a pivot a movable steel upright which could be placed in the line of the deviated column, and its divergence from the perpendicular noted on a graduated arc attached to the pelvic band. Rotation of the spinal column was measured by a horizontal arm revolving on this upright, the two ends of which were placed against the ribs, and the deviation of the plane of the chest from that of the pelvis read on another graduated arc.

In all of these thirty cases, with one exception, the deviation was enough to be easily measured by the instrument, reading in degrees. In the one case mentioned, although asymmetry was perceptible, it was so slight that the instrument did not record it. In no case was a lateral deviation of more than eight degrees from the perpendicular found, and that was so much of a distortion that it seemed as if the children would lose their balance and topple over sideways in walking. In only four cases of the thirty was there as much divergence as eight degrees, and even this must

be an accidentally large proportion of such severe instances of the deviation.

A divergence of five or six degrees was decidedly noticeable, so much so that it gave decided difficulty in fitting braces on account of the inequality of the two sides when the child stood up. Cases which were progressing well showed only a divergence of two or three degrees, which would not be noticed except on careful inspection, but which is enough to be distinctly perceptible when the child is regarded from in front without his apparatus.

Of course, it is purely arbitrary to speak of the matter in degrees as measured by this instrument; but it serves as some sort of a standard in the comparison of cases, and it afforded the means of keeping record of the progress of individual cases.

A particular interest attached to the question of rotation in connection with the lateral deviation. It was easily measured by the horizontal arm of the apparatus; but it proved to be a variable and uncertain affair, following no especial rule, but present to some degree in the majority of cases of Pott's disease in connection with the lateral deviation. It was never very marked, not being in any way comparable to the rotation of true scoliosis; and in no case had the column rotated through an arc of more than seven or eight degrees. This was, however, enough to be distinctly noticeable.

The most interesting fact about the rotation was the fact that it did not follow the same rule as in scoliosis, that is, rotating backward on the side of the convexity of the curve. More often than not it did follow this rule, but in at least a third of the cases measured it rotated in the other direction. One would expect to find in a large dorsal curve to the right that the right side of the chest had rotated backward, but in these Pott's disease cases it was just as likely to have rotated forward without disturbing the symmetry of the lateral curve.

As a check to the observations made on lateral deviation as occurring in Pott's disease (to anticipate the possible criticism that a common asymmetry of the growing body had been mistaken for a pathological condition), I was enabled to have measured in this regard one hundred healthy boys from one of the city institutions, by the kindness of the Post Physician, Dr. Coggeswell. These boys were all stripped, and carefully measured by Mr. Lund, who had taken most of the pathological measurements under my supervision. The same apparatus was used as that which was employed in the pathological measurements.

These boys were from nine to fifteen years old and may be taken as representatives of healthy, well-developed boys in general. Sixty-two were perfectly symmetrical, two had short legs from injury, and were not counted. Thirty-six showed slight but perceptible asymmetry, in only three cases reaching as much as four degrees; most of them showed only one or two degrees of lateral deviation, which would not be noticeable when they were dressed, and even when they were stripped would escape any but the closest inspection. An interesting point, however, in this connection was that slight rotation was a constant accompaniment of the lateral deviation, and followed the same rule as in scoliosis, cases with a right dorsal curvature showing a backward rotation of the right side of the chest.

To return once more to the lateral deviation in Pott's disease. The symptom is much more noticeable

ble in the standing than in the lying position, in which it becomes very much diminished or disappears only to reappear again when the patient stands on his feet. It is this variation in the deformity which makes it so difficult to apply a brace to a child who has this lateral deviation severely. The brace may fit perfectly when the child lies on his face, but in the standing position it may be thrown so markedly to one side that it fails to afford the proper support.

Although in certain cases, especially the late ones, the distortion is undoubtedly due to the unilateral destruction of bone, it is in general a symptom of muscular irritability. Often associated with a severe degree of pain, it is to be regarded as analogous to the distortion of other diseased joints. Just as in hip-disease, for some unknown reason, the irritation of the diseased joint-surfaces produces a reflex muscular spasm of the muscles controlling the joint, and the leg is stiffly held in a position of adduction. So in Pott's disease undue irritation of the inflamed intervertebral articulations causes rigidity of the columns and lateral distortion.

That it is a phenomenon of this sort in most cases is shown by the fact that it tends to disappear in the recumbent position, that it increases progressively if the children go about without proper support, and that it improves so rapidly under suitable treatment that the idea of a structural cause for it is not tenable in most cases.

Two cases which I have recently had the opportunity of observing very closely will serve to show how rapid is the disappearance of the deformity under favoring conditions.

A girl of ten appeared at the Children's Hospital with a lateral deviation of eight degrees occurring in dorsal Pott's disease, being an exceptionally severe case. She was put to bed with weight and pulley extension to the spine, and weekly measurements were taken in the standing position. The deformity diminished progressively from the first, and in five weeks has been reduced from eight to two degrees, which is an amount scarcely perceptible.

A boy of five seen at the same time, with an equal amount of deformity, was treated in the same way at the Samaritan Hospital, and after five weeks of recumbency and extension showed a reduction of the deformity from eight to three degrees.

These cases were treated so long by recumbency, not because it was entirely necessary, but in order to note the rapidity of improvement under the most favorable conditions.

It thus would seem proper in most cases to class the deformity as an irritative muscular symptom rather than as a unilateral loss of bone, and to treat it in the same manner that one treats the malpositions of other irritated joints. The rapidity with which it responds to the sedative measures of fixation and perhaps traction applied to the seat of the disease is the strongest advocate for this sort of treatment.

Treatment by recumbency and extension to the spine (applied by means of weight and pulley extension to both legs, and a Sayre's head sling pulling also by a weight and pulley from the head of the bed) is undoubtedly the quickest and most efficient method of reducing the local irritation, and with it the deformity; but it is a method which is not always available or acceptable, and the deformity is not one which requires such radical and immediate measures as im-

pending paralysis or threatened abscess. So that although the deformity may be most quickly reduced in that way, efficient treatment by braces or jackets will in most cases suffice to accomplish the same end more slowly. In all the cases observed no class showed so little lateral deviation of the spine as those cases which were progressing favorably under treatment by the Taylor back brace.

The objection to the treatment of these cases by a brace has been already stated in the difficulty of accurate adjustment. In even the worst cases, however, by special pains the brace can generally be made to afford efficient support if the two uprights be bent to fit the different curves of the two sides of the back.

The plaster jacket affords a still readier means of correcting the deformity. Suspension diminishes or effaces the lateral deviation so that by the application of a series of accurately fitting jackets a comparatively normal position is restored to the spine.

The method of Dr. Bartow is more rapid and equally efficient, who shapes a leather jacket to a corrected cast of the deviated trunk, and applies a comparatively straight jacket to the distorted column.

From the efficiency of these methods it must be evident that treatment need not necessarily be addressed to the lateral deformity as such. Any measure which modifies the pressure of the diseased vertebrae and fixes the spinal column tends to quiet the local irritation, and acts as a corrective measure to the disease and all its symptoms, including the lateral deviation. In a word, the treatment of Pott's disease is the treatment of the lateral deformity. In the severest cases, however, the importance of recumbency and extension cannot be overestimated.

In attempting in some way to sum up what I have tried to call to your attention, it is first necessary to insist upon lateral curvature of the spine as an exceedingly common, if not a uniform symptom of Pott's disease in the lumbar and dorsal region. This deviation is generally accompanied by a certain amount of rotation, which does not follow the same rule as in scoliosis.

The lateral deviation is for the most part a symptom of muscular irritation reflex to joint inflammation, and belongs to the same class as the malpositions of other diseased joints. It yields readily to treatment, and is most rapidly reduced by rest in bed and spinal extension, although the ordinary treatment of Pott's disease is generally sufficient to overcome the lateral deformity if efficiently carried out.

Finally, I would call your attention to the importance of extending and verifying these observations, in the hope of adding in lateral deviation, a new and simple diagnostic symptom by which the early detection of Pott's disease may be rendered less difficult.

— Considerable agitation having been caused by the refusal of a Doctor Saalfeldt, in Chicago, to sign a death certificate of a child dead of diphtheria until the father (poor man who had just lost three other children from the same disease) should have paid the doctor's bill, it now appears that the "doctor" was not registered, and had no right to practise at all. The registrar of vital statistics, by the way, sent an order to Saalfeldt to make the certificate, which he refused again to do. A warrant was therefore issued for his arrest. Thereupon he signed the required certificate.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

REGULAR Meeting, Monday, May 5, 1890, DR. BOLLES in the chair.

DR. E. M. BUCKINGHAM read a paper on INFLUENZA IN THE OUT-PATIENT SERVICE OF THE BOSTON CITY HOSPITAL.¹

DR. MCCOLLUM: I have been very much interested in Dr. Buckingham's paper. His experience agrees with mine. At the jail there were about 150 cases during the epidemic. The suddenness of the onset was a matter of surprise to me. One day on making my visit I found five or six cases; the following day perhaps twenty-five cases, and for the next ten days I saw twenty-five or thirty patients a day. There was no attack of pneumonia following the influenza, which was different from my experience elsewhere. The moment a man was sick he was not exposed to the weather in any way, and that I think had a great influence upon the course of the disease. In most of the cases to which I was called, there was marked prostration at the beginning of the disease in those who were robust and strong. Trouble with the ear followed in two or three cases, in one case there was disease of the middle ear. This case recovered, however, after a while. In the 150 cases I noticed an eruption in perhaps twenty-five, and in many instances where there was absolutely no eruption, there was a great deal of itching, and in these cases not dependent upon quinine because in many of the cases the men complained of the itching or eruption before they had taken quinine; so that I think the eruption was much more common in this epidemic than was generally supposed. The cause of it I suppose was some disturbance of the nervous system. One remark of Dr. Buckingham's impressed me particularly as to the effect of the disease upon phthisical patients. A large number of such patients who might have lived four or six months were carried off by the influenza. During the epidemic I saw perhaps twenty-five to thirty consumptive patients who were stricken down with the influenza, and died apparently from prostration, not from pneumonia or any extension of the disease itself. They were debilitated by phthisis, and unable to bear up under the two diseases.

DR. BOLLES: I would like to ask Dr. Wadsworth whether he noticed any eye symptoms accompanying the disease.

DR. WADSWORTH: Not an inconsiderable number of patients complained of infra- and supra-orbital pain, but there seemed to be no especial affection of the eyes in the cases I saw. A certain number of cases had conjunctivitis in connection with the influenza, as is to be expected with any disease that affects the mucous membrane of the respiratory tract.

DR. IRWIN: There are two points in connection with this subject which seem to me of very great interest: one of them is the possibility of this epidemic being contagious, and the other its resemblance to dengue fever. I happened to be in Charleston in 1879 when there was an epidemic of dengue fever, there being 5,000 to 6,000 cases in the city at one

¹ See page 343 of the journal.

time. To me the two diseases seem strikingly alike. The eruption was so far as I saw it exactly the same, somewhat like measles and characterized by great itching, and relieved frequently by the use of ointments. In regard to the contagious character there was one circumstance which I noticed at the Marine Hospital. In the surgical ward of about twenty patients, the disease passed from bed to bed quite as regularly as I have ever seen in cases of erysipelas. First one patient had it, and in forty-eight hours the next, etc., until every patient in the ward had it. In regard to its effect on patients with phthisis: I saw about twenty cases of phthisis with influenza, and I failed to see that it modified the disease in any form. They passed through the influenza and got well of it, and went on with the phthisis as usual. I think this was probably due to the fact that they were not exposed at all, but were kept in their wards.

DR. BLODGETT: I am especially grateful to Dr. Buckingham for rounding out the history of this epidemic in the City Hospital. The report by Dr. Mason, which was rendered before the Clinical Section of the Suffolk District Society, embraced everything, I think, within the hospital; and I am extremely obliged to Dr. Buckingham for the completion of the report of that institution which, I think, will now stand as comparatively full in this respect.

I have been quite struck by several cases in which I think there was no doubt of the recurrence of the disease after it had gone a long distance on its way to recovery from the primary infection. One case of that kind has been particularly interesting to me. A lady first took the disease in the latter part of December, and did not recognize its nature until ill some days. She remained in her room three weeks before she ventured to go out at all. She was prostrated by another attack through which she carried herself by domestic remedies. A third attack followed in about two weeks accompanied by great swelling of the right side of the face involving all the glands from the ear to the middle of the space beneath the chin, requiring opening in several places. At length a large abscess formed beneath the chin which required lancing. The lady made a recovery after this attack, and I think has been well since.

The absence of any mention of two, at least, of the more commonly prescribed remedies in this affection struck me quite forcibly; for almost every one who has spoken of the disease has had more or less to say of phenacetine or substances of that character. I found it necessary to use opium in some cases for the extreme pain and headache not relieved by the common remedies. In one or two cases insomnia would yield to nothing else, and I was obliged to resort to it, and I was also obliged to use it in a number of cases in which the influenza was followed by symptoms not mentioned here. In one of these cases there was a swelling in the region of the left ovary, apparently an ovaritis. There was an eruption upon the chest but not upon the abdomen. The nurse was quite sure it was a case of typhoid fever which had given no other evidences of that disease, excepting profuse diarrhoea for a number of days, which I think was an accidental affair. Following the painful affection of the abdomen was a milk leg which ran its course, and she has at present recovered from all the complications. This case also presented a very high pulse — 140 sometimes with a distinct mitral regurgitant mur-

mur during the height of the disease, which subsided as soon as convalescence took place. It may have been a pure haemic murmur, but at the time I was inclined to suppose that it had its origin in some organic defect, but the fact that it has very nearly disappeared, leads me to think I was mistaken.

DR. AYER said: Dr. Blodgett has just spoken of the use of morphine in the last epidemic. I relied upon it more than all the antipyretics put together. I felt that I knew how morphine would act. I did not give antipyrine or phenacetin a full trial as most of the gentlemen have done.

DR. O. F. WADSWORTH read a paper on

THE INSUFFICIENCY OF THE OCULAR MUSCLES.²

DR. H. W. WILLIAMS: I quite agree with Dr. Wadsworth that the time has not yet arrived when we can acknowledge the exaggerated claims that have been put forward with reference to this subject, the ultimate results cannot be judged of in so short a time as has yet elapsed. Unquestionably there must be something of good in efforts which are made so zealously and on so large a scale as this experiment has been tried, but I very much doubt if we shall realize all the benefits claimed for this procedure.

The subject of asthenopia has been an interesting one. Before we had our knowledge of the way in which the eye-mechanism was carried on; before we had the discoveries of Donders, which came to us like a gospel, and which have never been improved upon to any great extent since he first announced them; before that time and since, the whole subject has been extremely interesting. When Donders announced the mechanism of accommodation, much was added to our knowledge of the conditions under which vision was carried on. We understood refraction infinitely better after what he gave us in regard to the frequency of astigmatism, for instance; and at the same time accommodative action being explained, we had an explanation of the pains complained of in and around the eye after various kinds of use. We found that vast numbers of these were relieved by the correction of these errors of refraction; and there is no reason why we should not find a great amount of relief also from the correction of the accommodative mechanism which we have been dealing with in the same way, correcting by various means and with inestimable advantage. But I think that because some persons who have chorea, hysteria or epilepsy, have asthenopia, that the general disease depends on this condition of the eye, is altogether too much for us to accept. The author of these theories seems to forget that these things may be coexistent, that the state of the nervous system may affect the ability to use the eye, as we found before we had this knowledge of which I have spoken. Before that time we recognized that in persons of nervous temperament, whose nervous energy was exhausted from one cause or another, there would be temporary and permanent difficulties in using the eyes for ordinary purposes; those we have learned sometime ago to correct by tonics, as was described at one of the early meetings of the American Ophthalmological Society. The cases were not all cases where refraction and accommodation were disturbed as a permanent condition, but a temporary condition where accommodation and refraction could not be carried on very well because the nervous tone was low.

² Publication deferred.

As observers have compared their ideas, there has been a wonderful advance, as we all know, within the last generation. Our former knowledge of ophthalmology would be considered as very slight compared to what we have at present. There has been so great an advance, through the aid of the ophthalmoscope on the one hand and through those researches so carefully made by Donders and others on the other hand, that we have at command means we had not before; and we find many of these conditions are temporary — many of these slight degrees of aberration from the absolutely accurate standard in regard to astigmatism and in regard to insufficiencies of the muscles — and that some of these conditions may be neutralized by the eyes. An ophthalmologist at the last meeting of the Heidelberg Society, and also others in other places have presented very accurate papers showing that the eye is capable of neutralizing certain degrees of incapability. If we make careful examination, we can detect this disability; but the eye itself can overcome that in a state of health. When the health is depressed from one reason or another, especially from disturbances of nerve action, there will be a greater difficulty in performing these delicate nervous functions; and I think we must feel that there is reason for looking in other directions than in operating on the eye for the cure of all these things that have been laid so much stress upon as being cured by section of the muscles, and especially when we see the results. I have watched the process of reasoning which has been carried on in New York, and the assertions made of success, with a great deal of interest, for my attention was drawn more particularly to them by seeing cases which had evidently been injured by these operations pretty soon after they were announced. According to my observation, it does not seem as though the large number of operations performed, had been any more successful in restoring the normal balance of action than previously existed in a great many instances. I have seen several cases in which, after a large number of operations had been done on the muscles of the eye, there was still no rectification of the considered abnormal action; and some of those cases had never complained at all before. They had had their eyes examined, but the examination was not made because they complained of anything about the eyes. I think we do not give quite regard enough probably to the effects on such temperaments of constant training and practice. They are told that a certain thing is going to be of great benefit, and are very willing to accept it. They are willing to assert in the most positive manner that they have had benefit. We can test that benefit and ascertain whether it has been derived or not. Some of these cases have been positively damaged in their comfort in using the eyes. The results, it seems to me, are likely to be very small as compared with the predictions set forth.

DR. KNAFF: I have not had the opportunity of following out a great many of these cases of refractive trouble. I have seen very distinct benefits from tenotomy in one or two cases of severe headache in patients who had some refractive error combined with muscular insufficiency. In some of these cases there has been a history of other causes acting besides those mentioned, as care, anxiety, overwork; in some of them the special predisposing causes, other than neurasthenia, seem to have been absent. The relief that has been obtained by tenotomy has been quite marked,

so that I think that we must admit, from the neurological standpoint, that there are certain cases of persistent headache and of various neurasthenic symptoms which can be relieved by tenotomy. Curiously enough a good many of the text-books on nervous diseases do not say a word about refractive errors causing headaches. The fifth edition of Strümpell does not mention that hypermetropia or astigmatism or muscular insufficiency can cause headache. But going beyond these cases, I am rather sceptical as to the effect of eye-strain as a cause. As it happens, this year, during which my attention has been more particularly directed to it, I have seen rather fewer cases of chorea than usual. A certain proportion of these cases I have sent to Dr. Wadsworth for examination; and either he or Dr. Kilburn have examined them, and fitted them with glasses; and other cases which have not been sent seem to me to be getting along just about as well as the cases that had their refractive errors attended to. I recall now some four or five choreas that I have under treatment; two of them that I had fitted with glasses seem to be rather obstinate cases. Two more that have not had their eyes examined, seem to be getting on rather faster than those who have glasses. I don't know that that has anything to do with the matter, however, because there was that same distinction in the cases before I had the eyes of any of my cases examined. The epileptics I am not prepared to say anything about. I have had one or two cases of epilepsy examined, and the eyes pronounced to be all right. Other cases I have sent to oculists, and they are still under treatment. Almost all of the cases of epilepsy in which I have paid special attention to the muscular error, have been cases that I have seen during the past year, so that it is too soon to say anything whatever in regard to it.

DR. WADSWORTH: I agree in general with what Dr. Knapp has said. The subject of refraction I did not mean to touch upon this evening. My personal experience does not show any remarkable benefit from the use of glasses in chorea patients, as he has said.

DR. MCCOLLOM reported

A CASE OF LEPROSY.

The patient is a woman about forty-five years of age; is the mother of seven children, who are in this country. She states indirectly that the first symptoms appeared about seven years ago, fourteen days after the birth of her youngest child. She nursed the child a year, the disease meantime increasing in severity. At the end of that time the family came to this country, and left her behind. The children at the present time show no symptoms of the disease at all. They are well nourished. In her case the disease has gone on quite rapidly for the past four or five years. When her husband and oldest daughter saw her they seemed very much surprised at her appearance. They had not seen her for about three years. The case is of the tubercular kind. The bridge of the nose is entirely gone, and the lip has that thickening due to the deposit of tubercles under the skin. The ears are somewhat increased in size. There are two or three large tubercles over the eye-lids; also a large ulcer at each elbow, irregular in shape, three or four inches long, and one and a half to two inches wide. The ulcer contains no pus, but the tissues evidently break down without forming pus. There is also an ulcer on each knee, and the fingers are covered with a deposit

of matter which you can hardly call pus, and on the feet there is the same condition of things. One toe is just commencing to slough off. On the body there is no eruption at all. There is quite an eruption in the mouth and also on the fauces. The eruption is very peculiar, and not likely to be mistaken for anything else. She has a very peculiar, husky voice—the "voice of the leper" as it is termed by some writers. This peculiar huskiness one would recognize after having heard a leper speak two or three times.

This is the first case of leprosy in Boston for some time. There was a case here some time ago, which finally escaped, and all trace of him was lost. He had had the disease about five years when seen. There was a case at Salem a few years ago—a sailor from the west coast of Africa.

DR. JEFFRIES briefly alluded to several cases of leprosy which had come under his observation. In reference to the element of contagion, Dr. Jeffries thought that was overestimated.

DR. FARLOW showed a large

NASAL POLYPUS

removed from the nostril of a man. The whole of the growth is not yet removed; and from the fact of his age, and the rapid growth, he suspected the element of malignancy.



AMERICAN GYNECOLOGICAL SOCIETY.

THE Fifteenth Annual Meeting of the Society was held in the lecture-room of the Buffalo Library, September 16, 17, and 18, 1890. After the roll-call, the following gentlemen were asked to take part in the proceedings as invited guests: Dr. Roswell Park, Dr. Tremaine, of Buffalo; Dr. George Keith, of Buffalo; Dr. W. H. Buckmaster, of New York; Dr. J. A. Temple, of Toronto; Dr. Rosebrugh Hamilton, of Ontario; Dr. Fredericks and Dr. Mynter, of Buffalo; Dr. Carpenter, of Cleveland.

DR. ROSWELL PARK, on behalf of the physicians of Buffalo, delivered an Address of Welcome, after which the Society proceeded to carry out its programme. **DR. JOHN P. REYNOLDS**, of Boston, presiding, and **DR. JOSEPH TABER JOHNSON**, of Washington, Secretary.

The morning of the first day was devoted to the **DISCUSSION ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF EXTRA-UTERINE PREGNANCY**, which was opened with a paper by **DR. A. W. JOHNSON**, of Cincinnati.

Dr. Johnston said that the ameboid state is the first picture in the life of viviparous animals. From the first segmentation, immersed in a proper nutrient fluid, all alike go on to the formation of the life-producing membranes. It is only required of the mother that she should furnish this nutrient fluid. In the human being the "rut" is semipaternal, and the endometrium is ever ready to pass into the myeloid state. Pregnancy can, therefore, occur at any time.

Dr. Johnston stated that he did not believe that extra-uterine pregnancy ever occurs with a perfectly normal genital tract. He believes that such a thing as ovarian pregnancy, if such a thing exists, must be due to certain peculiar conditions.

In regard to diagnosis, the practical question is,

How often is the diagnosis made before rupture? Every colicky pain means a giving-way of some part of the tube. Sometimes the first pain gets a large blood-vessel, but more generally the bleeding is not alarming until the second or third.

When extra-uterine pregnancy is discovered, all there is left to do is to remove it. Electrical treatment should be condemned, as the growth of the gestation sac cannot be arrested until the placenta is killed. The death of the child does not, necessarily, mean the death of the placenta, for the latter has a separate existence. Electrical treatment is dangerous in practice, wrong in principle, and disastrous in its final results.

Dr. Johnstone referred to a specimen presented by Dr. Mann, in 1888, and claimed that this was a dermoid cyst, and not an ovarian fœtation, as Dr. Mann had claimed.

Dr. Johnstone's paper was followed by one by DR. MATTHEW D. MANN, of Buffalo.

Dr. Mann said that the view that the union of the male and female elements must take place in the uterus is erroneous. In the case of an extra-uterine pregnancy, the union must occur in the tube or beyond it, and most ectopic pregnancies are primarily tubal. In regard to abdominal pregnancy, the question is still *sub judice*. There is no possible doubt as to the occurrence of ovarian fœtation. The specimen exhibited by Dr. Mann, in 1888, was unquestionably one of ovarian pregnancy; and he thought that Dr. Johnstone was not in any sense justified in assuming that it was a dermoid cyst, especially as all the evidence was to the contrary. A dermoid cyst does not contain placental tissue.

When rupture into the abdomen has taken place, the only rational treatment is to open into the abdomen. Electricity is ordinarily of greatest value. With the death of the embryo the danger of rupture ceases.

DR. CHARLES JEWETT, of Brooklyn, presented a report of

A CASE OF RUPTURED TUBAL PREGNANCY.

This case occurred in the practice of Dr. F. A. Jewett, and was seen by him on August 22, 1890. The patient was unmarried, twenty-nine years old, and gave a history as follows: At the last menstrual period she had only a slight flow, which lasted two hours. She attributed the suppression to having taken a bath a day or two before the flow was due. She had no pain nor subsequent hemorrhage. On the day when she called her physician, while at dinner she was seized with an attack of syncope, to which she was subject. On regaining consciousness, she complained of general abdominal pain, which seemed to radiate from a point above the umbilicus, and near the median line. The abdomen was somewhat tender on pressure, and slightly tympanitic. Vomiting occurred frequently during this night. Morphia was given to relieve pain.

In the morning of the next day, August 23d, she had sharp, colicky paroxysms. In the evening, the pains had been relieved, but the pulse was 96, and the abdomen was tender on pressure. At night, the pains were, for the first time, referred to the pelvis, and radiated down the thighs. There was a slight flow of blood from the vagina, and as the catamenia were due the next day, the pains were supposed to be dysmenorrhœal. There was no marked pallor or other sign of internal hemorrhage.

August 24th, at 10 o'clock in the morning, the pulse was 120, and the temperature 100.4 F. The patient went into collapse at 11 o'clock, and died three hours later.

An autopsy was made by Dr. C. E. Barber. The abdomen was found to be full of blood; the omentum was attached to the fundus uteri by adhesions; the left ovary was partially prolapsed, and fixed to the uterus by old, firmly-organized adhesions, just without the left fold of Douglas; the right side of the pelvis, posteriorly, also showed evidences of old pelvic peritonitis; the isthmus of the left tube contained a gestation sac, of about five or six weeks' development; the tube had ruptured at a point about three-quarters of an inch from the cornu, near the middle of the posterior aspect of the tube, and the opening, which was elliptical, measured, in its long diameter, about four millimeters; the ovum remained *in situ*.

Dr. Jewett considered this a case in which the diagnosis of ectopic pregnancy was not suggested by the symptoms, prior to collapse.

DR. J. M. BALDY, of Philadelphia, continued the discussion on

ECTOPIC PREGNANCY.

He stated that he would take as a base for argument the supposition that conception had taken place in a Fallopian tube. He did not wish to be understood as denying the possibility of an ovarian or abdominal pregnancy, but he proposed to confine his remarks to the earlier stages of the condition, to a period when the symptoms were practically the same and differential diagnosis most difficult, if not impossible.

As symptoms of ectopic pregnancy, the following may be classified as significant, or, at least, strongly suggestive:

(1) A spurious flow, simulating menstruation, which is at first lighter and afterwards darker in color than the normal menstrual discharge, and which contains clots and shreds.

(2) Pain, intermittent and cramp-like and becoming more severe and more frequent. Its situation is almost invariably pelvic and low down in the abdomen, and it may be so severe as to cause syncope. This peculiar pain, which usually is the symptom which leads the patient to seek the advice of her physician, in conjunction with the pseudo-menstrual flow, may be accepted as pointing forcibly towards the possibility of ectopic gestation.

(3) Discharge of shreds of decidua, with or without clots.

(4) General signs of pregnancy, such as gastric, vesical and rectal disturbances, and the breast symptoms.

(5) Occasionally the history of a sterility, subsequent to a miscarriage or a normal labor.

(6) The vaginal discoloration is as in normal pregnancy.

(7) The cervix uteri is sometimes enlarged and soft and the os patulous, but this is not invariably the case.

(8) The fundus of the uterus is enlarged and softened and crowded either far forwards against the pubic bone or is pushed to one side. It is more or less immovable, and has a feeling of softness. As in the case of the cervix, these conditions are not constant.

(9) The uterine appendages sometimes show a cyst on one side, while the examination of the other side

may be negative. The cyst, if it be a pulsating one, does not make certain the diagnosis.

(10) The patient's belief as to whether she is or is not pregnant is of considerable value.

(11) In some cases, elevated temperature and accelerated pulse.

(12) At the time of rupture, great pain, collapse and all the signs of concealed hemorrhage.

Dr. Baldy said that three propositions were justified by his experience and the experience of other physicians :

(1) In a certain proportion of cases of extra-uterine pregnancy, in the early stages, the diagnosis is easy and unmistakable.

(2) In a certain (quite large) proportion of cases, sufficient symptoms are present to more than warrant a diagnosis of extra-uterine pregnancy, such a pregnancy not being present.

(3) In a certain other proportion of cases, the symptoms, until rupture has occurred, are entirely wanting or of such dubious character as to in no wise warrant such a diagnosis.

The writer cited a number of cases occurring in his practice, and reviewed cases reported by others. He said that he believed that many cases of extra-uterine pregnancy go on to a spontaneous cure ; that in some other cases there was death of the embryo, and subsequent partial or complete absorption of the resulting hematocoele, embryo and membranes. A very large number of cases terminate fatally, which renders expectant treatment sometimes hazardous, and necessitates active measures to prevent disaster. Where diagnosis is reasonably certain, laparotomy is preferable to electricity. The gentlemen who, a year ago, were among the most ardent admirers of the electrical treatment seem to have changed their minds, and now advocate laparotomy.

DR. A. J. C. SKENE, of Brooklyn, believed that it was highly important that a diagnosis should be made in all cases of extra-uterine pregnancy with equal certainty, whether the treatment contemplated be that of electricity or laparotomy, in order that patients *in extremis* could be intelligently cared for. He hesitated somewhat in expressing his views in regard to the importance of diagnosis, a subject about which so much has been said, but stated that he was firmly convinced that extra-uterine pregnancy is as easily diagnosed as any known affection of the female pelvic organs — as pyo salpinx or ovarian cyst — if there be no complication of other pelvic disease. Of course, if the case is complicated like the one mentioned by Dr. Jewett, where the anatomy of the pelvic organs undergoes an entire change, diagnosis will be more difficult, but that is true of affections of any part of the body. It is very true, however, that patients very often do not come to us until after rupture occurs, and then, of course, a diagnosis cannot be made.

The doctor referred to a case of pregnancy in one horn of a uterus bi-cornis, in which he had treated the patient for dysmenorrhea, the pregnancy occurring subsequently. The sac was soft, fluctuating and movable and lay in the region of the right tube and had every appearance of a tubal pregnancy, which he should have diagnosed as such had he not been familiar with the previous history of bi-lobed uterus. This condition of pregnancy in one horn of a bifid uterus, he held to be the *only* one which could not be differentiated from tubal pregnancy with certainty, and that excluding

this one condition, the diagnosis of ectopic-gestation was as easy and certain as any other form of disease.

In regard to the treatment of these cases by electricity, the speaker expressed the regret that such an important subject should have been so heatedly and doubtfully discussed, and that it should have received such merciless condemnation from the advocates of laparotomy and he believed that such acrimonious discussion between the electricians and laparotomists would never lead to the determining of the true value of either method of treatment and he hoped there would soon be an end to it. He had seen no evidence that electricity was especially dangerous and believed that it could be employed with entire safety, and failing to cure, did not prejudice in the least the resort to the more conservative method of laparotomy. The laparotomists say that their operation must be done by "competent hands." Considering that the cases for laparotomy are emergency cases, perhaps if they examined the histories of the cases that have been operated upon by *presumably* "competent hands," they would not be so ready to condemn electricity.

DR. W. W. JAGGARD, of Chicago, thought Dr. Johnstone's statement in regard to the spermatozoa determining the site of the fecundated ovum, did not throw any light on the general point of fecundation ; and that to attribute the cause of labor to the cessation of the influence of the spermatozoa was carrying the action of the ferment a little too far. He was sure ovarian pregnancy has been definitely proved, and was not a discussible point, and that it was useless to discuss the case referred to by Dr. Mann as the presence of decidua and villi had not been demonstrated microscopically. He thought it looked like a tubal pregnancy rather than a dermoid cyst, but he did not think it wise to take cognizance of the observations of an unfamiliar observer in a case of this kind. Many things look like and are called *fetuses* that are not fetuses.

The speaker called attention to the fact that a great many cases of so called tubal pregnancy, are simply hematomas of the tubes, and that many cases of hemato-salpinx are really tubal pregnancies. A. Kellar reported several cases in which villi of the chorion were found in these blood tumors of the tubes.

The natural history of tubal pregnancy has three terminations : (1) death before rupture, (2) rupture, (3) going on to term.

When the tube ruptures, the following sub-terminations may be observed : (1) Rupture into the broad ligament, with formation of hematoma of broad ligament — favorable termination. (2) After rupture ovum may remain *in situ*, and plug it up, acting as a tampon — favorable termination. (3) It may rupture with formation of retro-uterine hematocoele — favorable termination. (4) Rupture into the abdomen with intra-peritoneal hemorrhage. With the exception of the last, all of these are favorable terminations ; and, as a rule, ruptured tubal pregnancy will recover if left alone.

He agreed perfectly with Dr. Skene in regard to diagnosis being easy in uncomplicated cases, and cited a typical case of tubal pregnancy (seen recently with Dr. Bonner, of Chicago) diagnosed and operated on before rupture, with removal of fetus intact, the patient making good recovery. The points in the diagnosis were : slight bluish discoloration of the anterior vaginal wall ; softening and compressibility of the

lower uterine segment (Hegar's sign); uterus displaced to the left, retroflexed, enlarged and of a peculiar, soft, doughy consistency; to the right of the median line well-marked, small, almond-shaped, non-fluctuating tumor, resembling somewhat an ovarian cyst. This woman was thirty years old, and had three children; two were born at regular intervals of about two years, and there was an interval of three years between the third and fourth pregnancies, which latter was on the right side; and it should be noted that the typical cases of extra-uterine pregnancy occur in old multiparae going a long interval between pregnancies, or in primiparae who have been sterile for a long time. The evidence in favor of laparotomy, where diagnosis is made before rupture, is conclusive.

Dr. Veit's article on the "Diagnosis and Treatment of Early Tubal Pregnancies," including some ten cases, diagnosed before rupture, and operated upon with but one death, was referred to, as being the best result obtained by any method of treatment.

He makes the following objections to the use of electricity: (1) Danger of rupturing the sac; (2) uncertainty in diagnosis; (3) after the eighth week it is hopeless to expect resorption of the fetus or placenta. He agrees, however, with Dr. Skene, that it is well to be temperate in the condemnation of electricity.

The universal proposition that every case of ruptured tubal pregnancy is an indication for laparotomy, is an erroneous one, and has proved most disastrous in practice. The principal indication for laparotomy is where there is a free intra-peritoneal hemorrhage. In the event of haematomata of the broad ligament, broad ligament pregnancy; rupture of the tube, the clot acting as a tampon, the indications are all strongly against laparotomy.

DR. H. P. C. WILSON, of Baltimore, was entirely in accord with Dr. Skene. He believes extra-uterine pregnancy is very frequent, but that ovarian pregnancy is very rarely met with; that if ectopic pregnancy can be diagnosed in its early stages, electricity is the proper treatment. He would adopt three months as the limitation for the application of electricity to destroy the fetus rather than four months as advised by Dr. Mann, and has succeeded a number of times in destroying the fetus before the end of the third month. Failing in that he would resort to surgical measures, which he estimated to be fully as valuable under the proper indications, as electricity. In the early stages of ectopic pregnancy, the women are usually in good health, and cannot believe that such a serious thing as cutting into the abdomen is necessary, and you can rarely get their consent to such a procedure, hence the resort to electricity. In hospital cases you may operate at the beginning, but not in the better class of patients. Should the case, however, go on beyond three months, to cut in and remove the fetus is the manifest duty of the gynecologist.

(To be continued.)

— "Chiropodist and Female Beautifier" is the professional title adopted by a man of California, who is charged with criminal malpractice in causing the death from peritonitis of a pregnant woman. It is to be hoped that fetuses are not to be classed generally among the blemishes which come within the scope of the "female beautifier."

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OLD PHYSICIANS OF HARTFORD.

An interesting pamphlet on the Physicians of Hartford in 1820 and 1837 contains two papers of reminiscences: one, a reprint of an article by Dr. George Sumner, read before the Hartford Medical Society in 1820, the second by Dr. Gurdon W. Russell. The first paper contains sketches of physicians who obtained their early training in the War of the Revolution, and goes back to a time when the practitioners of the now busy city numbered but eight.

The physicians of that older day seem to have partaken of the earnestness of the times; and these reminiscences speak of their political beliefs and the ways in which their actions and their practices were influenced thereby. They had their professional differences also, and divided the city into *bleeders* and *stimulators*. They made their influence felt beyond the confines of their State also in their good works.

Dr. Mason Fitch Cogswell was the promoter of a school for deaf-mutes which was the nucleus of the American Asylum, and became the model of other schools for the deaf and dumb. Dr. Cogswell's daughter Alice was a deaf-mute. The interest in his own child led him to make inquiries respecting the number of deaf and dumb persons in the State, with a result that created great surprise at the unexpected frequency of the affliction. His appeal to his friends to aid him in introducing into this country methods of instruction already favorably known in France was successful, and led to the beneficial results already mentioned.

Dr. Todd brought before his professional brethren at a society meeting the difficulties in the treatment of the insane in their own homes, and gave the impetus to the foundation of the Hartford Retreat for the Insane. The name "Retreat" was chosen instead of "Asylum" because the school for the deaf and dumb had already appropriated the term "asylum." Physicians educated in that school were afterwards called to inaugurate other insane hospitals in Boston, Worcester, Brattleboro, and Utica.

Perhaps distance throws an enchantment over men of previous generations; but there seems to be a picturesque element in many of these Hartford doctors that would be hard to find at the present time. Dr. Sylvester Wells caused the bells to be tolled while the Hartford Convention was in session, and sent an old soldier marching with muffled drum through the streets; conduct which brought upon him angry remarks and poetical squibs.

The two Doctors Beresford must have been marked men. The father was a British Army Surgeon from 1804 to 1817, who was wounded at the last capture of Guadeloupe and put upon the half-pay list. Resigning his connection with the army he came to Hartford from Berbice, British Guiana, with a retinue of negroes, monkeys and parrots, which created quite a stir in the part of the town where he settled. He was a large, fine-looking man, commanding in appearance, accustomed to say no more than was necessary, and to speak to the point. It was the common impression that what he said must be obeyed. "In making his visits or when walking in the street, he was usually accompanied by his son, and as both were large, broad-shouldered men, they readily drew attention. It made some of the younger men smile . . . when, entering the sick-room, they both drew out their watches, and each seized an arm to feel the pulse of the patient." The Hartford hospital owes the son a debt of gratitude for a devotion which went so far as the neglect of private patients for public duties.

These are but meagre details from an interesting subject, but the Connecticut Society, which will celebrate its centennial in 1892, may well be pardoned if it dwells somewhat at length on some of the topics which are mentioned here.

THE REGULATION OF THE PRACTICE OF MEDICINE IN NEW JERSEY.

An act was passed by the Senate and General Assembly of New Jersey last May for the regulation of the practice of medicine, which is just going into operation, and which contains some features worthy of note. The execution of the law is vested in a board of nine members, appointed by the Governor for terms of three years. It is provided that the board "shall consist of five old school, three homeopaths and one eclectic," and further that "no member of any college or university having a medical department shall be appointed to serve as a member of said board." The new regulations apply only to those who commence practice in the State after the passage of the act, preceding practitioners being already registered under a previous law.

All examinations are to be in writing and both "scientific and practical, but of sufficient severity to test the candidate's fitness to practise medicine and surgery." "If the applicant intends to practise homeopathy or eclecticism, the member or members of the board of those schools shall examine said applicant in *materia medica* and *therapeutics*." A license shall not

issue unless the applicant passes an examination satisfactory to all the members of the board.

A somewhat peculiar feature of the law provides that any applicant refused a license by the board "for failure on examination may appeal from the decision of said board to the appointing power thereof, who may thereupon appoint a medical committee of review consisting of three members, one from each school of medicine, who shall examine the examination papers of the said applicant, and from them determine whether a license should issue and their decision shall be final: if said commission by an unanimous vote reverse the determination of the board, the board shall thereupon issue a license to the applicant: the expense of said appeal shall be borne by the applicant."

The board may by a unanimous vote refuse to grant a license for the following causes: "chronic and persistent inebriety, the practice of criminal abortion, conviction of crime involving moral turpitude or for publicly advertising special ability to treat or cure diseases, which in the opinion of said board, it is impossible to cure."

The power of the board is evidently very great, but it would be difficult to arrange a greater number of safeguards. In fact, it may be a question whether the safeguards against possible injustice are not so great as to hamper the action of the board.

MEDICAL NOTES.

— According to the daily press, Assistant Secretary Spaulding has informed the collector of customs at Boston that a recent importation of merchandise described as "ligature silk," is in no sense silk thread, or sewing silk, and is clearly dutiable at the rate of fifty per cent. *ad valorem*, as a manufacture of silk.

— The report of the Pennsylvania State Board of Health as to the number of registered medical practitioners in that State has just been issued. There are 8,318 practitioners, of whom 641 are of foreign birth, every nation, with the exception of Spain, being represented. The report contains the names and residences of each practitioner, with the name of the college and the length of time they have been practising.

— One physician of Buffalo has brought suit against another for \$25,000 damages for calling him a quack. The chief interest in the case lies in the fact that this much-used and often-abused word is now likely to be defined judicially. The plaintiff had called the defendant in consultation on a case of hernia, which he had treated by electricity. The relations between them became strained, for the plaintiff says that at a meeting of the County Medical and Surgical Society in the Iroquois Hotel on September 2d, the defendant spoke of him thus:

"The use of electricity is now practised by a notorious quack of Buffalo for the cure of hernia. This quack pronounced the patient cured of hernia after treating him, and a few days afterward the patient was taken with symptoms of strangulation."

The words were reported and published in the Buffalo *Medical and Surgical Journal* by the secretary of the meeting. For these words the plaintiff wants \$25,000 damages, and says he will sue the *Medical and Surgical Journal*, which published the words in its October issue. Both parties in the suit are regular practitioners of medicine.

BOSTON.

— The special committee of the Board of Overseers of Harvard College, on changes in the academic department and in its relation to the professional schools, made their report to the Board Wednesday, October 8th, at the conclusion of which the passage of the following votes was recommended :

Voted., That the Board of Overseers concurs with the Corporation in its approval of the fourth proposal of the College Faculty, "that a student may be recommended for the degree of Bachelor of Arts in the middle, as well as at the end, of the academic year."

Voted., That the Board of Overseers concurs with the Corporation in its approval of the third proposal of the College Faculty, provided it be amended by striking out the words "the foregoing requirement of sixteen courses," and substituting therefor the words "the requirements for the degree of Bachelor of Arts," so that it shall read as follows: "That when a student enters College there shall be placed to his credit towards satisfying the requirements for the degree of Bachelor of Arts (1) any advanced studies on which he has passed in his admission examination beyond the number required for admission, and (2) any other college studies which he has anticipated."

Voted., That the Board of Overseers does not concur with the Corporation in its approval of the first and second proposals of the College Faculty.

(1) That the requirements for the degree of A.B. be expressed, under suitable regulations with regard to length of residence and distribution of work, in terms of courses of study satisfactorily accomplished.

(2) That the number of courses required for the degree be sixteen.

Voted., That the Board of Overseers recommends the modification of the present Regulations of the College Faculty in accordance with the following proposition:

That a Senior intending to enter the Medical School and to take the full four years' course therein may, under proper supervision, include in the requirements for the degree of Bachelor of Arts the courses on physiology and anatomy required in the first year of the Medical School, each of said courses to count as one full elective course.

NEW YORK.

— The monthly bulletin of the New York State Board of Health reports that during the month of August, 10,002 deaths were recorded. This is 1,080 less than in July, and 630 more than in August, 1889, which was an unusually healthy month for the season of the year. The number of deaths reported represents an annual death-rate of 21.80 per 1,000 of the population. Of the total mortality 48.8 per cent. occurred under the age of five years; which is higher by eight per cent. than in August, 1889, three per cent. higher than the average for August, and two per cent. lower than in July. In each thousand deaths 292.70 occurred from zymotic diseases; being 35 lower than in July, and 37 lower than the average for August, for the preceding five years. The mortality from diarrhoeal diseases is about the same as the average for August, having fallen four per cent. from that of July. Of the 2,139 deaths from this cause,

1,310, or nearly sixty per cent., occurred in the five large cities of the State. Typhoid fever caused 162 deaths, just the average for the past five years for August; being an increase of 58 over July. There were 60 less deaths from diphtheria in August than in July, and 88 less than the August average. Whooping-cough and measles show an increasing death-rate, while other zymotic diseases are below the average.

— A case of small-pox, from which others are likely to arise, turned up at the Barge Office on September 26th. The patient, a young Irish woman, landed at Boston, September 16th, from the steamer *Nestorian* of the Allan line. She felt ill and feverish at the time, but the next day came on to New York, and on the 21st, an eruption made its appearance on her body. She had no idea that she was suffering from small-pox, and the discovery was not made until the 26th, when a Roman Catholic priest brought her to the Barge Office to have her examined. The examining physician, Dr. Guiteras, at once recognized the disease, and the diagnosis having been confirmed by Dr. Dillingham of the Board of Health, she was at once sent to the hospital on North Brother Island, and precautions taken, as far as possible, to prevent a spread of the infection.

— At the opening of the regular session of the Medical Department of the University of the City of New York, September 30th, Professor William H. Thomson delivered a lecture on the "Medical Aspects of Mental Discipline."

— On the 29th of September, 947 policemen specially selected for the purpose, began the retaking of the census of the city; continuing at the work from 8 A. M. to 6 P. M., with an interval of an hour for dinner. Twenty clerks from the Health Department assist in doing the tabulating. It is somewhat unfortunate that the new census should not have been left until a little later in the season, as many residents are still abroad or in the country.

— Coroner Hanly, with a jury composed chiefly of electricians, held an inquest on September 30th, on the case of Kopp, the lineman of the United States Illuminating Company who was killed by an electric shock while making repairs to a lamp at 35th Street and Broadway. The testimony went to show that the porcelain knob on the top of the lamp, which was an insulator, was cracked, and that Kopp, although considered one of the most expert linemen in the service of the company, failed to take the requisite precautions against accident. He had neither rubber coat, boots or gloves, and his pliers were not insulated. Manager Brown testified that the company furnished rubber gloves to all its employees, and that men were discharged for not wearing them when at work upon the wires. After the testimony was all in, the coroner called the attention of the jury to the action of an undertaker's assistant, who had injected an embalming fluid into the body of Kopp before the autopsy was made, and asked them to make some recommendation in regard to the matter. This was not done, however.

The jury, after deliberating for two hours, rendered a verdict that Kopp would not have lost his life if he had exercised proper care; but that "while said August Kopp did not exercise proper care, it has appeared in evidence that the defective insulation which existed at various arc lamps was a necessary factor in causing his death; and that the existence of such defective insulation was countenanced by the Board of Electrical Control. It is the opinion of this jury that the operation of high tension electric circuits in such condition, is a dangerous practice."

—The 18th of October, Deputy Health Commissioner Young, of Brooklyn, estimated the population of that city from the records of the Health Department, as 880,225, while the result of the United States census in June, placed the number of inhabitants at 804,000. On September 30th, Mrs. Mary McKenna, a native of Ireland, died in Brooklyn at the advanced age of 104. Her husband died in 1870 aged 85.

—At a convention of delegates from the various societies in the State for the prevention of cruelty, held at Albany, October 1st, a resolution was adopted recommending that all lying-in asylums and all institutions for the care of children, should be licensed and under the inspection of local health boards.

Miscellany.

STATISTICS OF THE BOSTON DISPENSARY.

The statistics of the Boston Dispensary for the year ending September 30, 1890, are as follows:

The number of new patients treated at the Central Office was 24,456, classified as follows:

Medical Department.—Men, 3,163; women, 5,359; children, 2,872; total, 11,374.

Surgical Department.—Men, 2,113; women, 1,007; children, 674; total, 3,792.

Department for Diseases of the Skin.—Men, 685; women, 431; children, 299; total, 1,415.

Department for Diseases of the Nervous System.—Men, 650; women, 476; children, 74; total, 1,200.

Department for Diseases of the Throat and Nose.—Men, 788; women, 724; children, 533; total, 2,045.

Department for Diseases of Women.—Women, 785; total, 785.

Department for Diseases of the Eye.—Men, 309; women, 315; children, 292; total, 916.

Department for Diseases of the Ear.—Men, 170; women, 203; children, 227; total, 600.

Department for Diseases of the Genito-Urinary System.—Men, 1,114; women, 31; children, 3; total, 1,148.

Department for Diseases of the Rectum.—Men, 123; women, 70; children, 5; total, 198.

Orthopedic Department.—Men, 27; women, 21; children, 43; total, 91.

Dental Department.—Men, 216; women, 269; children, 407; total, 892.

The number of visits made by patients, old and new, at the Central Office is 58,978, classified as follows: Medical, 20,956; surgical, 38,022; total, 58,978. The

number of patients treated in the Districts is 15,122 (including 449 cases of midwifery), classified as follows: Men, 2,944; women, 6,104; children, 6,074; total, 15,122. The results of treatment in the Districts are as follows:

Discharged, cured or relieved	39,578
The number of cases of midwifery attended during the year	449
The number of cases of midwifery attended since July, 1856	6,166
Whole number of patients since October, 1796	1,072,993
Whole number of patients since July, 1856	954,190
Average daily attendance at the Central Office	190
Largest number present any one day, March 10	323
Smallest number present any one day, June 13	80
The number of recipes put up at the Central Office during the year	60,883
The number of house recipes	48,265
The number of district recipes	12,618
Largest number of recipes put up in one day, December 30	447
Smallest number of recipes put up in one day, December 4	96
Number of paid recipes	54,780
Number of free recipes	6,103
Number of paid dental patients	849
Number of free dental patients	43

The list of medical officers for the ensuing year is as follows:

Surgeons: Drs. Edward O. Otis, William M. Conant, Frederic M. Briggs, Arthur K. Stone. Physicians: Drs. Robert Disbrow, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Harold Williams, George M. Garland, Edwin M. Buckingham, Vincent Y. Bowditch, William C. Emerson, Robert B. Dixon, Russell Sturgis, Thomas F. Sherman, James S. Howe, William F. Temple, George E. Richards, Henry Jackson, Henry C. Baldwin, Robert W. Greenleaf.

Department for the Diseases of the Skin.—Drs. Francis B. Greenough, Abner Post.

Department for Diseases of the Nervous System.—Drs. William N. Bullard, John A. Jeffries, Elliot G. Brackett.

Department for Diseases of the Throat and Nose.—Drs. John W. Farlow, J. Payson Clark, Algernon Coolidge, Jr., Frederic C. Cobb.

Department for Diseases of Women.—Drs. Francis H. Davenport, John B. Swift, Rufus A. Kingman, George Haven.

Department for Diseases of the Eye.—Drs. William D. Hall, Edwin E. Jack.

Department for Diseases of the Ear.—Drs. George A. Leland, William S. Bryant, Wallace Preble.

Department for Diseases of the Genito-Urinary System.—Drs. George H. Tilden, Francis S. Watson, Hayward W. Cushing, Gardner W. Allen.

Department for Diseases of the Rectum.—Drs. Walter J. Otis, William D. Hodges.

Obstetric Department.—Dr. Charles M. Green. Assistant Physicians, Drs. Edward Reynolds, Charles W. Townsend.

Orthopedic Department.—Dr. Charles L. Seudder. Pathologist.—Dr. Edward M. Greene.

Dentist.—Joseph E. Waitt, D.M.D.

District Physicians.—Drs. Willis B. McMichael, George A. Sargent, Augustus Thorndike, William S. Thayer, William S. Boardman, Chauncey R. Burr, Samuel Breck, Paul Thorndike, Edward L. Twombly, James R. Draper, Charles D. Fillebrown.

Apothecary.—Frederick H. Dudley. Assistant Apothecary, Joseph S. Lang.

WILLIAM H. H. HASTINGS, *Supt.*

CASES OF ERYSIPELAS OF THE PHARYNX.

The Annals of Surgery, September, 1890, refers to two cases of the above affection described in a pamphlet by K. G. Sennander (*Upsala*). Two cases were observed by him in the surgical clinic of Upsala, the clinical course of which rendered the diagnosis beyond a doubt. Two students of medicine who were serving in the clinic, fell sick, one soon after the other; they had been in the surgical as well as in the inner clinic, where several cases of erysipelas had been under treatment. The disease commenced with rigors and intense reddening of the mucous membrane of the pharynx, with sore throat and difficulty in swallowing. There was disturbance of the general condition, continuous high and remitting fever, swelling of the glands at the angle of the lower jaw, and then violent pain in the ear with following perforation of the tympanic membrane, when some bloody pus was evacuated. This perforation was followed by an erythema of the integuments of the external meatus; from there a characteristic erysipelas passed over onto the corresponding part of the face, where the vesicles developed on the forehead up to the boundary formed by the hair. The aural disturbances, as roaring in the ears, difficulty in hearing, and perforation of the membrane, disappeared under the proper treatment.

In addition to these two observations the writer communicates several cases of pharyngeal erysipelas which were treated at the same time in the inner clinic of Professor Henschen. In one case the extension of the disease over the neck rendered tracheotomy necessary; another one complicated with pleuritis and peritonitis, ending fatally, while in a third case an otitis media developed.

MUMPS AND INFLAMMATION OF THE LACHRYMAL GLAND.

A SHORT time ago a paragraph appeared in the *British Medical Journal* on certain affections which make their appearance during epidemics of mumps, and are presumably allied to that disease. At a meeting of the Société Vaudoise de Médecine in June, according to the same journal, M. Dufour exhibited a drawing which represented a case of acute inflammation of the lachrymal glands, occurring during an epidemic of parotitis in the district where the patient dwelt. A gardener was attacked with rigors and feverishness on the day after hard work under a hot sun. The eyelids began to swell, next day there was a distinct swelling in each upper lid, which continued for three days. At the end of that date the lachrymal gland, enlarged to the size of a cobnut and hard as cartilage, could be felt on each side. The palpebral cleft was triangular, with the apex at the inner canthus; the symmetrical character of the affection was

marked. Two days later all fever had passed away, the tumors had diminished in size; at the end of three days they were of the dimensions of a small bean, the lids had resumed their normal aspect. A fortnight later, three weeks and four days after the initial rigor, a rough body the size of a pea could be felt under each upper lid, at the outer canthus. The patient was in good general health. Professor Hirschberg, of Berlin, described two similar cases which occurred during the past spring at Berlin. Dr. Epéron noted that, whilst inflammation of the orbital portion of the lachrymal gland is rare, the palpebral or lower portion is more frequently inflamed, constituting an affection doubtless mistaken, in many instances, for a sty in the outer part of the upper lid.

EARLY MARRIAGES IN INDIA.

THE case of child-wife murder, reported in the *Journal* of October 2d, has attracted wide attention in India to the subject of the nubile age of females in that country. An editorial article in the *Indian Medical Gazette* of September, 1890, says:

"The appearance of menstruation is held by the great majority of natives of India to be evidence and proof of marriageability, but among the Hindu community it is considered disgraceful that a girl should remain unmarried until this function is established. The consequence is that girls are married at the age of nine or ten years, but it is understood or professed that the consummation of the marriage is delayed until after the first menstrual period. There is, however, too much reason to believe that the earlier ceremony is very frequently, perhaps commonly, taken to warrant resort to sexual intercourse before the menstrual flux has occurred. This came out clearly at the recent trial, and was indeed advanced in extenuation of the prisoner's 'rash and negligent act' by his counsel, and from evidence which we have gathered since the trial, it may be accepted as true that pre menstrual copulation is largely practised under the cover of marriage in this country.

"From this practice it results that girls become mothers at the earliest possible period of their lives. A native medical witness testified that in about twenty per cent. of marriages, children were born by wives of from twelve to thirteen years of age. Cases of death caused by the first act of sexual intercourse, are by no means rare. They are naturally concealed, but ever and anon they come to light. Dr. Cheverys mentioned some fourteen cases of this sort in the last edition of his 'Handbook of Medical Jurisprudence for India,' and Dr. Harvey found five in the medico-legal returns submitted by the Civil Surgeons of the Bengal Presidency during the years 1870-71-72.

"Reform must come from conviction and effort as in every other case, but meantime the strong arm of the law should be put forth for the protection of female children from the degradation and hurt entailed by premature sexual intercourse. This can easily be done by raising the age of punishable intercourse which is now fixed at the absurd limit of ten years. Menstruation very seldom appears in native girls before the completed age of twelve years, and if the 'age of consent' were raised to that limit, it would not interfere with the prejudices and customs which insist on marriage before menstruation."

ETHER INTOXICATION.

We can bear out from personal observation, says the *Lancet* for September 20th editorially, many of the statements which are now going the round of the public press in reference to the habit of ether drinking in some parts of Ulster; for, in fact, some of the paragraphs are nothing more than copies of what we have reported in years gone by. The practice came into use about the year 1841-42, and was at first a kind of reaction against the great temperance movement which had been inaugurated by Father Mathew. Ether, at that time of the ethyl type, probably not very pure, was substituted for whiskey, and the habit, commencing in or near to Drapers Town and spreading over a small surrounding area, is continued up to the present day. The order of drinking, as we witnessed it during a visit to the district named, is singular. The ether purchased at open shop and at stores was doled out in wineglasses. The drinker first washed out his mouth with a draught of cold water, and after that tossed off a wineglassful of ether "nate," as it was said, drinking it quickly, almost at a gulp. Both men and women took part in this indulgence, and were speedily brought into a state of intoxication, more or less complete. The intoxication differs from that produced by alcohol. It is more rapidly induced, and more rapidly dispelled; in fact, the effect of one dose may be developed and cleared off in a quarter of an hour or twenty minutes. The delirium is sharp, the stupor, for a brief period, deep, and the excitement, so long as it lasts, hysterical.

We gathered particulars from a trustworthy medical source of several instances in which the narcotism caused by the ether had proved dangerous, calling for the employment of artificial respiration; and we found evidence of four actually fatal intoxications, either from an excessive dose or from asphyxia caused by the entrance of some of the fluid into the glottis, with succeeding spasm or obstruction. We gathered, at the same time, that tolerance to the effects of ether was much less marked than tolerance to alcohol; and we learned further, that organic disease from the habitual taking of ether was exceedingly small compared with the ravages and degenerations which alcohol leaves in its train. The explanation of these facts is not difficult; alcohol is so soluble that it enters the blood freely, pervades, with the water of the blood, all the tissues, and is readily retained by them to work out those serious osmotic changes which demonstrate its action as the most potent of degenerators. Ether, on the other hand, is comparatively insoluble, and as it boils at the temperature of the body and is diffused nearly as fast as it is introduced, it leaves few marks of mischief, except when it destroys life directly. Occasionally it gives rise to dyspepsia and to gastric irritation, with free eructations of gases mixed with etherial vapor. But these symptoms belong to ether tasters of a hardened sort, and soon pass off when the habit is abandoned.

Of late years the use of the cheaper methylated ether has taken the place to a considerable extent, of the ethyl variety, and some think with more injurious effects; but on this point there is no evidence strictly trustworthy. Officers of the Government have at various periods made inquiries in order to see if, by legislative action, the habit could be controlled or prevented, but as yet nothing has been suggested that

has promised success, and the excise officers are helpless, inasmuch as the spirit from which the ether is made has paid the usual duty previously to the manufacture.

Correspondence.

CRYPTORCHIDISM.

BOSTON, October 4, 1890.

MR. EDITOR:—I beg leave to communicate the following report of a case seen within the past few days. This instance of a rare condition—as to anatomy and physiology—naturally belongs with those already published, under title "Puerile Genitalia," in the *Boston Medical and Surgical Journal* of October 15, 1888:

The man is a native of Connecticut; aged twenty-six years; of robust frame, with unusual muscular development in general; complexion, fair; eyes, light blue; hair, brown and thin; markedly hirsute over front of trunk; weight, 147 pounds; height, five feet six inches; chest measure, 36 inches; voice, rather high-pitched.

There is congenital absence of both testes, scrotum and phallus appearing to be normal. Thorough examination failed to reveal any sign of missing "witnesses" in or about canal or abdominal walls. The parts about the lower portion of the trunk and thighs were unusually firm, no looseness or flabbiness of structure anywhere. He states that coitus has been normal, with usual sensations. He also says that he recently passed five days in a small boat at sea, without food and water, showing great endurance.

Query for the medico-surgical public: What would be the prognosis in event of injury or disease?

Very respectfully,

F. B. STEPHENSON, Surgeon U. S. Navy.

ANTISEPTICS AND ETHICS.

SALEM, October 3, 1890.

MR. EDITOR:—When Lord Lytton wrote, "the pen is mightier than the sword," he doubtless did not imagine that later on a Strasburg professor would extol the virtues of ink in the healing of wounds. If the aniline colors, recently introduced as antisepsics under the name of "pyoktanin," are not identical with the aniline inks with which we have been unpleasantly familiar for some years, they are, at least, cousins-german to them.

Unless the alleged remarkable antisepctic action of pyoktanin should receive the confirmation of clinical experience, it is hardly likely to be generally employed, and chiefly because of the conspicuous staining that invariably attends its use. At present, according to the *Annales d'Oculistique* (juillet-août), doctors abroad differ as to its merits; and they do not by any means assent unanimously to all that is, somewhat extravagantly, claimed for it. On the contrary, in many cases, they find the salts of mercury and of silver are more reliable.

However, after a while pyoktanin will have found its place.

As to another matter:

On the label of a tincture bottle (price one dollar), bought in New York, appears (in questionable taste, according to our ideas) "Unter Kontrole von Prof. Dr. F. Stilling," which leads one to surmise it is (like Dr. Knorr's antipyrin) a proprietary article.

In contrast, cocaine, the value of which is universally recognized, was generously given (?) to the world by its discoverer, Dr. Koller (who is now living in New York). In this country, in which charlatans flourish so luxuriantly, it is assuredly creditable to us that our qualified medical men freely and unselfishly bestow their professional inventions for the benefit of mankind, possibly remembering that *noblesse oblige*.

DAVID COGGIN.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 27, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	639	245	18.24	19.68	3.24	5.92	2.56
Chicago	1,100,000	338	150	27.55	8.99	8.99	11.31	5.22
Philadelphia	1,064,277	335	118	16.50	17.70	6.00	6.30	2.40
Brooklyn	852,467	370	174	20.00	11.61	4.05	10.00	1.08
St. Louis	550,000	158	51	15.75	8.82	3.78	5.04	5.04
Baltimore	500,343	162	77	20.80	13.65	4.55	7.80	1.95
Boston	446,071	165	70	25.62	15.25	4.27	14.64	5.49
Cincinnati	320,000	87	52	11.96	13.09	3.57	3.57	4.76
New Orleans	260,000	113	35	21.36	7.12	1.78	8.90	.89
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	80	36	27.50	13.75	11.25	7.50	5.00
Nashville	68,513	26	9	34.65	11.35	3.85	19.23	3.85
Charleston	60,145	31	16	12.92	12.92	—	6.47	3.23
Portland	42,000	12	4	16.66	16.66	—	16.66	—
Worcester	84,536	25	14	28.00	16.00	—	20.00	4.00
Lowell	77,605	31	19	45.22	12.92	—	32.30	—
Fall River	74,361	32	23	34.43	6.26	3.13	28.17	3.13
Cambridge	69,837	18	4	5.55	11.11	—	5.55	—
Lynn	55,684	15	7	20.00	13.33	—	13.33	—
Lawrence	44,150	15	8	22.22	16.66	—	22.22	—
Springfield	41,161	11	5	28.56	28.56	—	14.28	—
New Bedford	40,705	14	8	14.28	14.28	—	14.28	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	39,528	—	—	—	—	—	—	—
Salem	30,735	19	8	15.78	26.30	10.52	—	—
Chester	27,850	9	3	22.22	11.11	—	22.22	—
Haverhill	27,322	9	2	44.44	—	11.11	22.22	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	12	3	16.66	16.66	—	8.33	—
Newton	24,375	8	2	12.50	12.50	—	—	12.50
Malden	22,984	7	4	14.28	14.28	—	—	14.28
Fitchburg	22,607	7	1	—	14.28	—	—	—
Gloucester	21,292	9	5	—	11.11	—	—	—
Waltham	18,422	5	2	20.00	—	—	20.00	—
Pittsfield	17,252	5	2	20.00	—	—	20.00	—
Quincy	16,711	8	3	37.00	—	—	—	—
Northampton	14,361	—	—	—	—	—	—	—
Newburyport	13,914	4	0	25.00	50.00	25.00	—	—
Woburn	13,491	—	—	—	—	—	—	—

Deaths reported 2,783; under five years of age 1,160: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 573, consumption 322, acute lung diseases 370, diarrhoeal diseases 273, diphtheria and croup 121, typhoid fever 83, whooping-cough 66, malarial fever 25, scarlet fever 13, cerebro-spinal meningitis 8, measles 6, erysipelas 5, typhus fever 4.

From whooping-cough, Brooklyn 7, New York and Baltimore 6 each, Chicago 4, Philadelphia 3, Quincy 2, St. Louis, Boston, New Orleans, Washington, Nashville, Lowell, Salem and Taunton 1 each. From malarial fever, New Orleans 9, New York 6, Brooklyn 5, Baltimore 3, Nashville and Charleston 1 each. From scarlet fever, New York 3, Brooklyn and St. Louis 2 each, Chicago, Boston, New Orleans, Worcester, Lowell and Lynn 1 each. From cerebro-spinal meningitis, New York 3,

Brooklyn 2, Chicago, Washington and Quincy 1 each. From measles, New York and Springfield 2 each, Brooklyn and Baltimore 1 each. From erysipelas, New York 2, Chicago, Brooklyn and Washington 1 each. From typhus fever, Philadelphia 3, and the two chief greater towns of England and Wales with an estimated population of 9,715,550, for the week ending September 20th, the death-rate was 19.1. Death rate reported 3,650: acute diseases of the respiratory organs (London) 187, diarrhoea 373, measles 76, whooping-cough 72, diphtheria 63, fever 49, scarlet fever 47.

The death-rates ranged from 12.9 in Derby to 35.7 in Preston, Birmingham 19.0, Bradford 14.1, Hull 23.7, Leeds 21.9, Leicester 17.9, Liverpool 22.1, London 16.2, Manchester 31.6, Newcastle-on-Tyne 26.6, Nottingham 15.8, Sheffield 25.2, Sunderland 27.9, In Edinburgh 16.7, Glasgow 24.0, Dublin 19.4.

The meteorological record for the week ending Sept. 20, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:-

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.		Velocity of Wind.			State of Weather.*		Rainfall.
		Daily Mean.	Daily Max.	Daily Min.	8:00 A. M.	8:00 P. M.	Daily Mean.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	8:00 P. M.	
Saturday, Sept. 20, 1890.															Duration in Min.
Sunday, 14	30.12	67.0	71.0	63.0	60	85	73.0	S.W.	E.	20	4	F.	O.	O.	0.01
Monday, 15	30.12	63.0	61.0	60.0	58	100	98.0	E.	S.	6	4	O.	O.	O.	0.12
Tuesday, 16	29.98	68.0	73.0	65.0	58	90	94.0	E.	S.	6	7	O.	O.	O.	1.02
Wednesday, 17	30.78	63.0	60.0	58.0	55	97	90.0	N.E.	N.	9	17	O.	O.	O.	0.13
Thursday, 18	29.92	67.0	74.0	60.0	81	72	71.0	W.	N.W.	13	6	O.	C.G.	C.G.	0.05
Friday, 19	30.09	61.0	77.0	55.0	72	78	75.0	W.	S.W.	3	11	C.	C.	C.	
Saturday, 20	30.03	67.0	74.0	60.0	83	68	75.0	S.W.	W.	14	0.				
Mean for Week.	30.00		72.0	61.0		83.0									

*A, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow. + Indicates trace of rainfall.

The meteorological record for the week ending Sept. 27, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8:00 A. M.	8:00 P. M.	Daily Mean.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	Duration. Hrs. & Min.	Amount in Inches.	
Saturday, Sept. 27, 1890.														
Sunday... 21	30.16	58.0	65.0	59.0	67	74	70.0	N. W.	S.E.	14	9	C.		
Monday... 22	30.16	55.0	67.0	55.0	71	81	51.0	W.	S.W.	6	10	G.		
Tuesday... 23	29.88	59.0	73.0	64.0	73	58	65.0	N.W.	N.W.	14	14	C.		
Wednesday... 24	30.18	54.0	59.0	49.0	57	55	56.0	N.W.	N.W.	20	8	C.		
Thursday... 25	30.27	51.0	63.0	40.0	59	61	60.0	N.W.	S.W.	4	3	C.		
Friday... 26	30.46	54.0	67.0	58.0	80	94	87.0	S.W.	S.	9	9	H.		
Saturday, 27	30.62	64.0	70.0	58.0	92	72	82.0	W.	N.W.	6	13	O.	0.12	
Mean for Week.														0.08

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 27, 1890, TO OCTOBER 3, 1890.

In view of the abandonment of Fort Gibson, I. T., to which post he is at present assigned for station, Captain W. O. OWEN, Jr., assistant surgeon, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Sill, I. T., and report to the commanding officer for duty. S. O. 135, Department of the Missouri, St. Louis, Mo., September 27, 1890.

In view of the abandonment of Fort Crawford, Col., to which post he is at present assigned for station, Captain J. L. PHILLIPS, assistant surgeon, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Logan, Col., and report to the commanding officer for duty. S. O. 135, Par. 1, Department of the Missouri, St. Louis, Mo., September 27, 1890.

Leave of absence for twenty days, to take effect when his services can be spared by his post commander, is granted Captain LOUIS S. TESSON, assistant surgeon, Fort Sidney, Nebraska. S. O. 72, Department of the Platte, Omaha, Neb., September 25, 1890.

By direction of the Secretary of War, leave of absence granted Captain JOHN L. PHILLIPS, assistant surgeon, in Special Orders No. 164, July 16, 1890, from this office is extended two months. S. O. 228, Par. 3, A. G. O., Washington, September 29, 1890.

Leave of absence for one month, to take effect about October 1, 1890, is granted Captain LOUIS W. CRAMPTON, assistant surgeon (Fort Sheridan, Ill.). S. O. 80, Par. 2, Division of the Missouri, September 30, 1890.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, October 13, 1890, at the Medical Library, 19 Boylston Place, at 8 o'clock P. M.

Dr. F. B. Harrington will read a paper on "The Value of Primary Anesthesia in Minor Operations." Dr. E. G. Cutler will show a case of Multiple Neuritis due to Arsenic, and a case of Pseudo-Muscular Hypertrophy in an Adult.

G. G. SEARS, M.D., Secretary.

CORRECTION.

In the JOURNAL of September 25th, on page 302, near the end of the page, before the words "I have two very interesting cases" should have appeared "Dr. Broughton said." As it was printed the remarks which follow were apparently made by Dr. Bolles.

OBITUARY. MONTROSE A. PALLEN, M.D.

Dr. Montrose A. Pallen died in New York, on October 1st. He was born January 2, 1830, in Pittsburgh, Pa. His father, a Virginian, was professor of obstetrics in the St. Louis Medical College for twenty-seven years. Dr. Pallen received his medical education at the St. Louis University, from which he graduated in 1856. He spent two years in the medical schools and hospitals of London, Paris and Berlin, and then settled in St. Louis, where he remained till 1874, when he was called to the chair of gynecology in the medical department of the University of the City of New York.

During the war Dr. Pallen was medical director of Gen. Henry A. Wise's Legion in 1861, of Gen. William J. Hardee's army corps in 1862, and later of the Department of Mississippi until February, 1863. Subsequently he was sent to Canada by

the confederate government to report on the condition of the confederate prisoners on Johnson's Island. He returned to Richmond in 1864, went to Paris, and obtained surgical and medical supplies for the confederate army there. He was sent to Memphis again, but was compelled to return home back to the South, and held on parole in New York until the end of the war. He was professor of gynecology in the Humboldt Medical College in 1866-67, adjunct professor of obstetrics in the St. Louis Medical College 1867-68, professor of gynecology in the St. Louis College of Physicians and Surgeons 1869-70, professor of anatomy in the Missouri Medical College 1871-72, and professor in the medical department of the University of the City of New York 1874-82. In 1885 he assisted in forming the Post-Graduate Medical College. He also served as surgeon to the Charity Hospital.

OBITUARY. E. HUGGINS BISHOP, M.D.

Dr. E. Huggins Bishop, one of the oldest residents of New Haven, Conn., died at his home on October 2d. He was born in New Haven on February 11, 1807, and was therefore in his eighty-fifth year at the time of his death. He was a graduate of Yale, class of 1826, and of the medical department of the college in 1829. Most of his life he spent in the practice of medicine in his native city, and was for several years president of the New Haven Hospital Society. He retired from active practice ten years ago.

OBITUARY. PROCTOR THAYER, M.D.

Dr. Proctor Thayer, a prominent physician of Cleveland, O., died in that city on October 1st. Dr. Thayer was born in Williamstown, Mass., on October 16, 1823, but has lived in Ohio since his eighth year. He graduated from the Cleveland Medical College in 1843. In 1845 he became a member of the faculty, and four years later professor of anatomy and physiology in the Western Reserve Medical College. When the war broke out he entered the army as a surgeon, and served at the reduction of Fort Sumter, Moultrie and Wagner, and was afterwards placed in charge of a large hospital at Beaufort, S. C. Dr. Thayer was in the battles of Pittsburg Landing and Corinth, and from the latter he brought three hundred wounded men, distributing them on the way to Cincinnati. He was honorably relieved from further service, and returned to Cleveland. He resumed his connection with the Western Reserve Medical College, and did much to the growth and progress of that institution. Of late years he was professor of surgery and of medical jurisprudence, but he resigned last winter, because of failing health. His resignation was accepted only so far as concerned the chair of surgery, and he consented to retain his professorship of medical jurisprudence. He was then made emeritus professor of surgery.

Dr. Thayer had been in ill health for several years, but until last March he did not retire from active practice.

OBITUARY. JEROME WILMARTH, M.D., M.M.S.S.

Dr. Jerome Wilmarth, of Milford, died on October 7th. He was born in Montague fifty-nine years ago, and graduated from the Harvard Medical School in 1866. He was for many years a resident of Upton, but for the last few years has lived in Milford. He leaves a widow and three children.

DEATHS.

Died in Boston, September 22, 1890, John Cauldwell Sharp, M.D., M.M.S.S.

Charles L. Hubbell, A.M., M.D., M.M.S.S., died suddenly in his office, in Williamstown, of heart disease on October 7th.

Original Articles.**A READY METHOD FOR COUNTER-EXTENSION AT THE KNEE.¹**

BY HENRY LING TAYLOR, M.D., NEW YORK.

If the knee-joint is, from its position and structure, peculiarly liable to acute and chronic inflammation, it is also favorably situated for examination and treatment. Experience has shown, however, the obstinate and serious nature of many cases of synovitis and arthritis of the knee, and the frequency of grave sequelæ, unless treated with the utmost care and precision.

We endeavor to put the parts at rest and to prevent friction, by immobilizing the joint in the more or less flexed position instinctively assumed by the patient, and to abolish harmful pressure on the surfaces by counter-extension in the lines of the tibia and femur. Properly applied, counter-extension, with fixation and recumbency, usually affords prompt and often marvellous relief to the intense suffering in the active stage of the trouble, and at the same time provides conditions favorable to the proper nutrition of the joint, and the subsidence of the inflammatory process. I have seen a young man who had been in such agony for months from a synovitis of the knee, that narcotics were freely administered with only slight mitigation, breathe a sigh of relief the moment the straps of the

counter-extension splint were tightened, and remain free from suffering from that time, with coincident subsidence of the inflammation. Fixation alone or simple traction by means of the weight and pulley, however useful in an emergency, give by no means the same results, and I am convinced that the early application of some form of counter-extension is of extreme importance in surgical inflammations of the knee-joint. My object is to indicate one or two ways in which counter-traction may be effectively applied without elaborate apparatus, remembering always that, in mechanical as well as operative surgery, the success of any procedure depends strictly upon the care and skill of the operator, and that no amount of theoretical acquirement will compensate for the lack of exact and dexterous manipulation of details.

The patient being put to bed, the first step in the dressing is the application of adhesive plasters to each

side of the leg and thigh. To get a firm and even grasp of the limb, we use a three-tailed or five-tailed plaster made as follows: four pieces of yellow adhesive plaster, about an inch and a half wide and eight inches long for an adult, have firmly sewed to one end a piece of webbing six inches long, and two strips of rubber plaster three-quarters of an inch wide and about twenty inches long, in such a manner that the webbing prolongs the yellow plaster, while the strips of rubber plaster make with it an angle of sixty degrees, as seen in the cut (Fig. 1). We now have four three-tailed plasters with webbing attached.² Two of these are applied to the leg below the knee, one to each side, the webbing starting about four inches above the ankle, and falling towards it; the narrow strips of rubber plaster are wound spirally around the leg slanting towards the knee. The two remaining three-tailed plasters are similarly applied to the thigh, the webbing starting a few inches below the level of the crotch and falling towards the pelvis. When in place the plaster is retained by a light bandage; it is thus seen that when the four ends of the webbing are doubled on themselves and buckled over the edge of some form of fixation splint, reaching beyond the plaster in both directions, traction is exerted upon the knee both above and below.

It is necessary to apply the plasters to the leg and fasten the webbing to the splint in such a manner that no prying or twisting force falls upon the knee, or pressure will be increased instead of relieved. The splint must be rigid to provide fixed points for the traction, and must immobilize the knee laterally and antero-posteriorly, without pressing upon the joint. If flexion is moderate, two straight strips of wood like laths or window-shade sticks, cut the proper length and provided with buckles near each end, will do very well. The strips are well padded with cotton or folds of fabric above and below the knee and at the ends and securely fastened in place each side of the limb by bandaging them together over the top of the thigh, behind the knee, and above the ankle; after this additional bandages may secure the whole. We now have to draw the pieces of webbing over the ends of the side splints as tightly as we wish, and fasten them into the buckles provided (Fig. 2). Our simple counter-extension splint is now complete, but it is usually desirable to attach five or six pounds to the lower end of the apparatus by the ordinary cord, pulley and



FIG. 1.

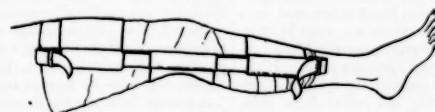


FIG. 2.

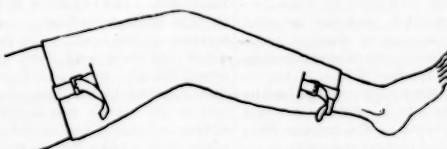


FIG. 3.

¹ Read at the meeting of the American Orthopedic Association, Philadelphia, September 16, 1890.

² If we wish to use strong traction we may use a five-tailed plaster by sewing another pair of rubber plaster strips just above the first.

stirrup arrangement, the knee being carefully propped and supported in the flexed position by hard cushions or in a sling. If much flexion is present, a tracing of the leg should be taken on paper, and wooden side-splints with a corresponding angle and perhaps hollowed at the knee, can be prepared by the carpenter. This dressing³ has worked well and given prompt relief in a number of cases, but it occurred to me last summer, that the ordinary plaster-of-Paris splint reaching from above the ankle to near the crotch, might be utilized for the same purpose and prove more convenient in an ambulatory case. I have used such an arrangement with satisfaction in a number of cases, of which one was a bad old case of osteitis of the knee, with nearly ninety degrees of flexion, for whom I was preparing and have since applied, a more perfect steel splint. The plasters were applied to the limb as before, bandaged in place, and the knee covered with cotton; over this was placed a light plaster-of-Paris splint with strong edges, over which small pieces of cardboard were bent where the webbing was reflected. Buckles attached to bits of webbing were bandaged into the plaster on the outer and inner side of the limb at each end, and to these the plaster webbing was fastened (Fig. 3).

If the patient is small a stiff tin or zinc posterior splint could be bent to correspond to the angle of flexion, and turned up at the sides for lateral support and to receive the buckles near the ends. Whatever the form of apparatus we use for fixation and as a fixed point for our counter-traction, we must be careful, let me repeat, that no leverage, especially no prying or twisting force is exerted upon the joint. If the counter-traction acts in the lines of the deformity, we should in most cases speedily get relief from pain, diminution of tenderness, heat and swelling, relaxation of the flexor muscles and an improved general condition of the patient. As the mechanical conditions are favorable, the amount of traction need not be great, not nearly so great as is required at the hip, but it should be constant, definite and in the proper direction. Even in our steel splints ratchet-traction is not required, as merely drawing the straps into the buckles by the hand, gives a sufficient pull. After a few days or weeks motion will be freer; as the muscles relax the splint is straightened, and counter-extension in the improved position continued. The later stages toward recovery may present indications for different management, and the ultimate result will depend upon an exact apprehension of the physiological requirements of the joint at each stage, and precision in meeting their demands.

A CASE OF COMPOUND DISLOCATION OF THE HIP, WITH RECOVERY.

BY JOHN W. PERKINS, M.D.

I SAW the following case while interne at the Children's Hospital, Boston, during the service of Drs. Langmaid and Cabot, by whose permission it is published. The notes were taken by me, daily, at the time.

Ella S., aged eight years, admitted April 17, 1885, under Dr. Langmaid. Her physical development was excellent, her mind unusually bright. Although suffering somewhat from shock, she related very clearly the

³ Used by Dr. C. Fayette Taylor since 1871.

manner of the accident. An hour and a half previously, while she was sitting on the edge of the sidewalk, a heavy brewery wagon drew in suddenly, close to the curbstone. In her hurry to get out of the way, she fell on her stomach, so that her body rested obliquely on the edge of the curb, her knees in the gutter. One wheel of the wagon passed between her legs and across the back of her left thigh (from within outward) as shown by an ecchymosed band, nearly coinciding with the gluteal fold. She was brought on a stretcher to the hospital at once, without having undergone any manipulation which would have altered the relation of the parts.

When placed on her back upon the table, her left thigh was flexed, abducted and rotated outwards, so as to lie perfectly flat along its outer aspect, upon the table. A widely gaping wound some eight inches in length extended diagonally across Poupart's ligament, from a point an inch above and inside the anterior superior spine, to the inner and posterior aspect of the thigh. The muscles directly under the wound were severed, the adductor longus completely, the pectenous, psoas and gracilis, partially. The adductors, contracting, formed a well-marked swelling about midway down the thigh. The head of the femur with the whole of the round ligament presented near the middle of, and close to Poupart's ligament. The lower portion of the abdominal muscles, nearly the whole length of Poupart's ligament, and the unsevered muscles of the thigh for a considerable extent, were exposed by the retracted skin. Haemorrhage was considerable, so that it became necessary to pack the wound with sponges, pending the arrival of Dr. Langmaid. The femoral vessels could not be seen or felt in the wound.

An hour later the child was etherized. Under the spray, and with antiseptic precautions, the wound was carefully cleaned, and the dislocation reduced by Dr. Langmaid. The reduction was easily accomplished at the first attempt, by flexing the hip and making direct pressure on the head. The femoral artery and vein, which had been held down outside and beneath the cervix femoris, were now found in their normal position, exposed by the laceration of the sheath. The rent in the capsule was anterior. The tendinous insertion and about two inches of the adductor longus, which was almost free in the wound, were removed. No bleeding points were found, drainage-tubes were inserted, the skin brought together with silk, and a dressing of iodiform gauze applied, with a waterproof covering. The child was placed upon a Cabot hip-splint,¹ which was found to be of the greatest assistance throughout the subsequent treatment, not only in maintaining the leg in good position, but in handling the child. On it, she was easily raised, to renew the dressings or to change the bed—a consideration of great importance in view of the incontinence which followed.

An aseptic condition of the wound was not maintained. Attempts to have all urine passed by catheter were unsuccessful. Frequent involuntary passages saturated the dressing, in spite of its mackintosh covering. The left labium major, and the abdominal wall covering the left iliac fossa became red, swollen, painful. Enemata, and even the introduction of a thermometer into the vagina caused pain. The urine and stools were never bloody. The temperature and pulse rose steadily until the third day after the acci-

¹ Described in Boston Medical and Surgical Journal, vol. ex., p. 6.

dent when the temperature reached 104.5° F. Pus appeared in the wound and the febrile condition declined. On the fifth day secondary hemorrhage occurred, from the upper end of the wound, about eight ounces by estimation.

The child, who previously had become very nervous, now became exceedingly fretful and irritable. Night screams, similar to those occurring in the early stages of tubercular joint disease, were of frequent occurrence. She lost flesh rapidly. The wound gaped. Three days after the first, a second hemorrhage took place, about the same amount as before. The flow on both occasions was quickly discovered by the nurse and checked by immediate compression. There were no more hemorrhages.

Following this second mishap, the child's condition became very trying. Restless and irritable before, she was now almost unmanageable, at times wildly delirious. Her temperature fluctuated between 100 and 102° F. daily—her appetite was feeble, her physical condition daily grew worse. Bed-sores formed in spite of every precaution. The skin sloughed wherever the splint pressed. Intense pain in the hip and knee were constant whenever the leg was disturbed.

At the end of the second week, by Dr. Cabot's direction, a second splint, similar to the first was applied, having slightly different curves and dimensions, thus altering the points of pressure upon her body and leg. In addition, an anterior splint, similar to a "Smith" was made, by means of which extension was applied to the suspended leg. From this time on, her condition improved; the wound healing rapidly although frequently soaked with urine. The leg took on the peculiar condition not infrequently seen in paraplegics; pallid and edematous throughout, its vitality was so low that the pressure of the most carefully padded splint produced sloughs in a night.

Six weeks after the injury, the wound had almost closed, the bed-sores healing, and her general condition greatly improved. The leg was still swollen, even larger than before, the thigh measuring thirteen inches, the calf nine and three-eighths inches. There was slight motion at the hip-joint. She convalesced rapidly and at the end of three months she could walk without the aid of crutches, the foot being considerably everted.

A year and a half after the injury I carefully examined the child—noting the following:

The left hip was completely ankylosed, the joint absolutely without motion. The thigh was slightly abducted, somewhat rotated outward and flexed on the body at an angle of about fifteen degrees. Lordosis marked when the thigh was brought parallel with the table. The pelvis was not tilted. There was no difference in the length of the two legs. The left thigh measured one-half an inch less in circumference than the right, but the left calf measured one-half inch more than the right. The left foot was ordinarily held much everted but could be brought to the median line but not inverted beyond this point. Extreme eversion was greater with the left than with the right foot. The gluteal fold was about three-quarters of an inch lower on the left than on the right side, the left glutei muscles being noticeably flattened. The cicatrix extended from one inch inside the anterior superior spine directly along the fold of the groin six and one-half inches, to a point on the upper thigh, on a level with the

perineum. The child walked easily, with much everted foot and a limp, a slight jog, quite noticeable, but which did not inconvenience or weary her in the least. There was no pain or tenderness about the joint. Her physical condition was excellent.

Remarks.—Compound dislocations of the hip are certainly rare. Malgaigne wrote that it had probably never occurred. Sir Astley Cooper had never seen one, but in his work "On Dislocations," Mr. Bransby Cooper gives a case of his own and records a second related by a former pupil, Dr. Walker of Charlestown, Mass. Hamilton adds one recorded by Wm. Taylor, and Stimson gives four others. These cases, briefly, are as follows:

CASE I. A healthy boy aged seventeen, attempted to kick a stone out of the way of his wagon-wheel. The wheel caught his left foot, forced him to the ground and passed over his right hip. The following day at Guy's Hospital, Mr. B. Cooper² found the head of the femur in the right groin, placed to the inner side of the femoral vessels, which he describes as "very unusual." An extensive lacerated wound was situated just below Poupart's ligament, a little to the inner side of the centre. The dislocation was reduced with pulleys, aided by the usual depletives. The wound became sloughy, suppurated profusely and the patient died in twenty days.

CASE II. Walker's³ patient was a very muscular man who fell from a wagon "laden with many tons of manure," upon his hands and knees. While in this position the wagon passed over the posterior part of his pelvis and right thigh, forcing the head of the femur out of the acetabulum upon the groin, and pressing the head through the integuments. After several vain attempts at reduction by extension, Dr. William Ingalls replaced the head by flexing the thigh on the pelvis, abducting and rotating inward, assisted by direct pressure on the head, with the thumb in the wound. "The reduction was effected with the greatest ease and elegance." Extensive suppuration again proved fatal to the the patient at the end of three weeks.

CASE III. A third case of compound pelvic dislocation is reported by a German military surgeon, name not given.⁴ An artillery man, galloping, fell with his horse in such a way as to bend his left leg forcibly backward, until the heel lay against the back of the shoulder. The head of the bone, with a portion of the round ligament, projected through the skin of the groin. The femoral vein was ruptured and bled profusely. He died the following day.

CASE IV. Taylor's⁵ case was a boy aged seventeen, who was engaged in sawing down a tree when it suddenly fell, pinning him to the ground. He extricated himself, and was found to have a dislocation of the hip with a lacerated wound of the perineum nearly two inches in length. Through this, the head of the femur was plainly felt lodged in the obturator foramen. The dislocation was reduced with some difficulty, and pelvis and leg fixed by a long straight splint. The method of reduction is not stated. The wound suppurated. A large abscess formed in the neighborhood of the hip, which was opened there, and which also discharged through the perineum. The wound healed well, and

² Cooper: *On Dislocations*, Case lxv, p. 116.

³ Cooper: *Loc. cit.*, Case lxiii, p. 119.

⁴ Statistisches Sanitäts Bericht über die Königlich Preussische armee, und das XII. (Königlich Württembergische) armee-korps, für das vier Rapport Jahre vom 1 April, 1874, bis 31 März, 1875. Berlin, 1875, p. 62.

⁵ W. F. Taylor: *Lancet*, 1881, p. 732.

at the end of five months he had left the hospital with the joint, as Taylor supposed, in a satisfactory way towards ankylosis. Eight months later, however, he met his patient riding on horseback seated in bushman style on a large colonial saddle. He could mount and dismount with ease, and suffered no inconvenience from the hip excepting a little occasional stiffness.

CASE V. Moxon's⁶ case was a railway porter knocked down violently by the train, while closing a door. Accounts of the accident varied. Some said he was caught between the train and platform; others that he was doubled up in some indescribable way. He was taken to Guy's Hospital, bleeding from a wound in the perineum, and died shortly after admission. It was said he had lost a great deal of blood. The left lower extremity was much swollen and discolored throughout its whole extent. The limb was in the position of dislocation onto the dorsum ilii. The wound was large, admitting several fingers, just under the fold of the gluteus maximus, its position corresponding to the junction of the left sacro-sciatic ligament with the tubus ischi. The head of the bone had escaped between the quadratus femoris and the obturator internus, and lay half an inch outside the great sciatic nerve, free under the remains of the glutei. A portion of the head with the round ligament was found in the socket. Besides a scalp wound there was nothing else discoverable. Death was attributed to hemorrhage and shock.

CASE VI. Woodward's⁷ case was also a railway accident. A boy aged twelve years was rolled over and over in front of a moving freight car, the wheels not passing over any part of his body except one toe, which was crushed. The head of the right femur projected about four inches through a wound two inches long on the inner side of the thigh, two and one-half inches below the angle of the pubes. The ligamentum teres had been torn away from the head of the bone. There was no fracture of femur or pelvis and the great vessels were not injured. Haemorrhage was slight. The patient had sustained other injuries, however, including several fractures, and died of shock in five hours. After death the dislocation could not be reduced, owing to the muscular attachments falling over the acetabulum.

CASE VII. Macouchy's⁸ case was a boy aged fourteen, who fell from the mast of a vessel to the deck, sixty feet. He was found sitting on the deck with the head of the femur appearing between his legs through his trousers, as if it protruded from the anus. The head, neck and great trochanter had protruded through the integuments covering the posterior third of the tuberosity of the ischium, the head resting on the posterior portion of the opposite ischium. Reduction had been tried and failed. The head was sawn off and the shaft replaced. The patient had sustained a fracture of the base of the skull in addition, and died two days later with the usual symptoms of compression.

We have in all, eight cases, five of which occurred between the ages of eight and seventeen years. Four of the eight died within forty-eight hours — two uncomplicated from haemorrhage, and two complicated with other injuries, from shock and compression of the brain. Of the remaining four, two died from the effect of prolonged suppuration — in eighteen and twenty-

one days — and two recovered, one with completely and one with partially ankylosed joint.

Four of the eight dislocations were of the pubic variety, two obturator, one dorsal and one ischiatic — a ratio⁹ exactly the reverse of what is generally accepted as the relative frequency of the uncomplicated varieties. This result is perhaps to be expected from the fact that the thinnest covering of the joint lies towards the pubes. In both the posterior dislocations as well as in both the obturator cases, the violence was certainly very great; as witnessed by the fact that three of the four died within two days of the immediate effect of their injuries, and in two of them the head of the bone was protruded four inches or more through the integument. It is worthy of remark that three of the four pubic cases were produced in identically the same way — namely, by the passage of a wagon wheel over the back of the thigh near the hip. The resulting hyperextension of the joint, and stretching of the integuments must have been important factors in producing this dislocation and in rendering it compound. It is not probable that the same degree of force applied to the front of the thigh would have rendered a dislocation compound posteriorly, if indeed the resultant of the forces produced a dislocation at all.

The occurrence of severe haemorrhage in four of the cases, with two deaths directly due to that cause, suggests the importance of ascertaining the position of the dislocated head with reference to the femoral vessels, especially in the pubic form, where they come in close proximity. In the case reported, the vessels were caught under the head, so that they might easily have been torn by rotating the head outward. The degree of difficulty, which may result from their close association, is well illustrated by the following set of cases of pubic dislocations, not compound:

(1) Sir Astley Cooper¹⁰ records the case of a man, aged thirty-six, knocked down by a cab, who sustained a dislocation of the left femur upon the pubes. "The head of the bone could be felt on the pubes, pressing Poupart's ligament upward, and was placed upon the femoral artery, so as to stop the pulsation."¹¹ No difficulty was experienced in this case, the pulsation returning after extension for about a quarter of an hour, the dislocation was ultimately reduced, and the patient made a perfect recovery.

(2) Stokes¹² was not so fortunate. His patient, a young man aged twenty-seven, had sustained a dislocation onto the pubes by falling off his team. Ether was administered, and the dislocation reduced. The patient died, at the end of the operation, of pulmonary embolism. At the post-mortem, a clot was found in the femoral vein, which had apparently been formed in consequence of the traumatism, and been detached by his efforts at reduction.

(3) The third case is that of Goldsmith:¹³ a man aged forty, in whom the head of femur was thrust under Poupart's ligament, over-riding the margin of the pelvis in such a way as to underlie the femoral artery. It remained unreduced for two months, when he came under observation with a diffused swelling occupying

⁶ Post-mortem report by Moxon, *Medical Times and Gazette*, 1872, p. 96.

⁷ Woodward: *Boston Medical and Surgical Journal*, vol. 108, p. 129.

⁸ Macouchy: *Dublin Hospital Gazette*, 1829, i, p. 21.

⁹ Wm. Stokes: *British Medical Journal*, 1880, ii, 916.

¹⁰ Goldsmith: *American Journal of Medical Sciences*, July, 1880, p. 30.

the groin, filling the iliac fossa, and extending to the middle of the thigh; feeble pulsation, tumor appearing a few days after the accident; pain severe; diagnosis aneurism; treatment ligature of the common iliac artery; death on the fifth day. At the autopsy the femoral and external iliac arteries were found perforated to the extent of an inch on the postero-external aspect; the head of the femur lay in the cavity of the aneurism.

In view of the occurrence of such results, the importance of clearly ascertaining the relation of the dislocated head to the femoral vessels is manifest; and Stokes's case emphasizes the necessity of ascertaining the position before any attempts at reduction, and not after. I do not find any constant relation in the pubic form, although it has been so formulated by various writers. Sir Astley Cooper¹⁴ stated that in the ordinary pubic dislocation, "the head is situated upon the pubes, above the level of Poupart's ligament on the outer side of the femoral artery and vein." This observation was based on an autopsy in an old case of unreduced pubic dislocation. Of the ten cases of pubic dislocation which he quotes, the position is not noted in six. In one of the remaining four (the autopsy just referred to) the head lay to the outside; in the second, it lay to the inside — "very unusual" — he comments. In the third "the head of the bone had taken a course behind the femoral artery and rested in a space between the psoas and pectenous muscles"; and Mr. B. Cooper remarks that the position is "much more to the inner side than is usual in this dislocation, as the head of the bone is more frequently placed to the outer side of the femoral artery." In the fourth case, the head lay under the artery, stopping the pulsation, as already described. Of these ten cases, then, in one, the position of the head was noted to be on the outside, in one under the artery, and two on the inside, so that from the Cooper's own statistics, the inside position does not appear to be so "very unusual," and this is confirmed by other cases, demonstrated post-mortem, namely: In one, Aubrey¹⁵ found the head lying between the psoas and pectenous, raising the latter muscles, and with it the vessels. In a second¹⁶ the head was thrown upward resting against the outer side of the ilio-pectineal eminence, and had displaced the artery outward, so that it lay curved outwardly, below Poupart's ligament. In a third¹⁷ the vessels were found crossing the head, and in a fourth¹⁸ an old case, in which the neck of the femur had been fractured, the head was found on the inner side of the vessels.

From the cases quoted, then, it appears that (1) in pubic dislocation, a considerable danger may threaten the patient from injury to the femoral vessels; that (2) the relative position of the vessels and dislocated head are of interest with especial reference to efforts at reduction; but (3) their relative position is not constant; and (4) the position of the dislocated head with reference to the normal position of the vessels should give rise to no inference as to the actual position of the vessels, for, the head lying outside the normal situation of the vessels, may still have the vessels outside it.

¹⁴ Sir A. Cooper : *Loc. cit.*, p. 111.

¹⁵ Aubrey : *Bull. de la Soc. de Chir.*, 1853, vol. viii, p. 377.

¹⁶ Aubrey : *Bull. de la Soc. de Chir.*, 1853, vol. iv, p. 276.

¹⁷ Roser : *Arch. für Path. Heilkunde*, 1857, vol. i, p. 58.

¹⁸ Douglas : *London and Edinburgh Monthly Journal of Medical Science*, 1843, vol. iii, p. 1064.

It may be inferred that the careful location of the vessels should be the indispensable preliminary to any attempt at reduction, and that the primary manipulation should be directed towards freeing the vessels and head from a dangerous relationship.

REPORT OF FIFTY CATARACT EXTRactions BY A NEW METHOD.

BY DR. H. B. CHANDLER,
Assistant Surgeon Massachusetts Charitable Eye and Ear Infirmary.

BROADLY speaking, the operation for the removal of the cataractous lens may be divided into two distinct methods; with and without an iridectomy, modified to a certain extent by the will and pleasure of the operator. In my limited experience as an operator and observer, neither method has resulted altogether satisfactorily; but in many cases, far from it.

Those advocating an iridectomy claim that the mutilated iris and resulting coloboma forms no particular objection, as the lid covers it, and that the lens and cortical can more easily be removed, and that there is less tendency to iritis and loss of vitreous. On the other hand, promoters of simple extraction maintain that an operation allowing spherical aberration, and at times a large and distressing amount of light to enter the eye, is far from ideal.

There can be no doubt in the minds of those who have operated by both methods, that so far as the removal of the lens and cortical are concerned, it is just as satisfactory under one method as the other, if the operator takes the precaution of following the expressed lens by the cortical before the iris becomes replaced. There is also less danger from loss of vitreous in simple extraction, that is, so far as I have observed, the reason being obvious.

It is not, however, the loss of vitreous, difficulty with the lens, etc., which has induced some of our best operators to abandon the operation of simple extraction, but the far more important and decidedly unsatisfactory accidental complication of prolapsed or incarcerated iris.

To have a patient, more especially a private one, complain of irritation and gritty feeling in the eye, and on examination to find a prolapsed iris is, to use a mild expression, very annoying, not that the prolapsed iris and necessary excision results in any particular danger to the ultimate success as regards sight, but our simple extraction has proved a failure, and the moral effect on the patient of a second operation is bad, leaving out of consideration the disturbance of a partially united wound and a second chance of septic infection.

If we are fortunate in escaping a prolapsed iris, there is a chance of incarceration which, although not as unsatisfactory as prolapse to the operator, may eventually prove more so to the patient.

Very little has been written about this mishap. Even a small incarceration which shortly after an operation seems of trivial importance may be the source of irritation to an eye in after months. I have seen patients whose anterior synechiae were looked on as no particular misfortune, return with a misplaced pupil, and a tale of woe as regards irritation, and in some cases of considerable ciliary neuralgia.

The operation I now propose for your consideration, is one which I have attempted in fifty, and performed

in forty-seven cases without any selection of cases. Three of these, on account of numerous posterior synechiae necessitated an iridectomy. Although the number of cases is not large, I think it is sufficient to justify my claim, that simple extraction can be performed without any danger of subsequent prolapse, or incarcerated iris, leaving a round, central and movable pupil.

The operation is performed in the following manner: After making a corneal cut, exactly at the cornea-scleral junction, a very small piece of iris about one or two millimetres from the periphery is caught up, either by means of a fine iris forceps with teeth situated on the lower portion of the blade as near the point as possible, or by means of a sharp hook, the bent portion being at right angles and about one millimetre long, and gently drawn out, is cut horizontally as close to the gripping instrument as possible; this leaves a small round opening not more than one to two millimetres in diameter. The lens and cortical are now pressed out in the usual manner, particular care being taken that the cortical shall follow the lens before replacement of the iris takes place.

After removal of the pressure the iris usually replaces itself, if there is any difficulty, a Daviel's spoon or any other suitable instrument can be used for its replacement. A one per cent. solution of atropine sulphate is instilled and applied at each subsequent dressing. This small opening I have found amply sufficient to prevent prolapse or incarceration, and is invisible, except under careful examination.

The reason for making a small opening is to allow the free escape of the aqueous which collects behind the iris, otherwise when a sufficient quantity has been secreted, any movement of the eyeball inducing a gaping of the wound, is followed by a rush of aqueous and a washing out of the iris in some cases; for where the iris has some tone and the circular fibres strength to resist, it will not happen. The irides becoming prolapsed, or incarcerated are to be regarded as in a flaccid or limp condition.

The phenomenon may be practically demonstrated by performing simple extraction, allowing the anterior chamber to be partially refilled, and applying gentle pressure.

If, after reducing the iris a second time a small opening be made, no change in the condition of the iris will take place.

I remember a case some time ago in which a piece of steel had become imbedded in the tissue of the iris, and it was impossible to remove it without bringing the iris with it. I found I could not replace the iris, and after several futile attempts I was about to excise the prolapsed portion, when in place of doing so I made a small peripheral incision, after which I had no trouble in returning it, leaving a cosmetically perfect eye.

I have dwelt perhaps at length on the theory of the cause of prolapse. My reasons for this are, that it has been doubted as to whether the aqueous had any direct or indirect cause in its production.

The result obtained from this operation during convalescence has been much more satisfactory than those obtained from modified Graefe.

I have been pleasantly surprised at the slight amount of irritation and injection found on removal of the compress.

Slight secondary iritis has been the exception rather

than the rule, while the reverse has been my experience with the modified Graefe.

No tabulated statement has been deemed necessary in this article, as all were senile cataracts, the ages of the patients ranging from forty-five to eighty-four. Nothing abnormal took place either at the time of operation or during convalescence, except in a few of the cases as mentioned below.

Atropine was not instilled in the first fifteen cases until the third or fourth day, and as a consequence, the majority had two or three small filiform posterior synechiae which, although not interfering with the position or symmetry of the pupil, were readily revealed under a mydriatic.

In the later cases, atropine was used immediately after the operation and at each subsequent dressing, and although a few have had synechiae, the majority were perfectly free from any adhesion.

In one patient suffering from rheumatic arthritis, iris supervened on the fifth day, and although the result was satisfactory regarding direct vision, the pupil was small and the field so contracted, it was thought best to do an iridectomy. In another case atropine was omitted through a misunderstanding which resulted in blocked pupil. The patient has not returned for secondary operation.

In another case a small prolapse took place after union of the wound. This exception, however, rather proved the rule. On account of the restlessness of the patient it was doubtful whether an opening had been made, as I was unable to get the patient to look down; subsequent examination during convalescence revealed no opening.

The resulting vision tabulated below was taken in the majority of cases and at the time of discharge, two or three weeks after the operation, no second test having been made for improvement of vision. Subsequent examination would have doubtless given better results.

1 case (blocked pupil)	. . . . .	vision = hand.
1 case (central choroiditis with lateral fixation)	" = <u>2</u>	
3 cases	"	" = <u>.1</u>
2 cases	"	" = <u>.2</u>
8 cases	"	" = <u>.3</u>
9 cases	"	" = <u>.4</u>
10 cases	"	" = <u>.5</u>
4 cases	"	" = <u>.6</u>
4 cases	"	" = <u>.7</u>
1 case	"	" = <u>.8</u>
4 cases	"	" = <u>.9</u>
3 cases	Graefe's operation done.	

50

Secondary operation was performed in seven cases, and antiseptic precautions taken in all.

This operation, thus far, commends itself to me as liable to fewer accidents than any method at present employed, while furnishing as good results.

— A daily paper in Chicago announces that a practice tending to demoralize an important branch of the city service has been stopped. The Health Commissioner has issued an iron-clad order that henceforth all vaccination by the health inspectors shall be done upon the arms and not upon the legs. This action was found necessary because of the constantly increasing applications of young women who desired to be vaccinated upon the legs to avoid the slight scar on the arm, which would be visible on dress occasions.

Clinical Department.

A CASE OF HYDROPHOBIA.

IN THE SERVICE OF C. F. FOLSON, M.D., Visiting Physician, Boston City Hospital.

REPORTED BY H. G. WILBUR, M.D., House Physician.

A GERMAN, John K., aged fifty-three, a hortler, was admitted to the hospital September 3d. He was bitten by a dog in the thumb of the left hand on July 4th, two months previous while trying to separate two dogs that were fighting. A small cicatrix marked the site of the wound. The dog was not known to be rabid, but shortly afterwards it killed several pigs, and was shot by the owner of the pigs.

He is said to have been more or less worried about the bite, and feared that he would have hydrophobia. He was as well as usual, however, until the morning of September 3d, when he could eat nothing. On attempting to drink, he could not swallow. Later on he went to work in the stable, but in putting his hand into a pail of water to reach for a sponge, he started back exclaiming that the water frightened him.

On entering the hospital, nothing unusual was found; the physical examination was negative. Temperature normal, pulse slow and full. There was some difficulty in giving him his bath, he was so frightened at the water. He refused food. On giving him some milk he seemed frightened at the sight of it; we assured him that he could drink the milk. He took a little, and, on attempting to swallow, it came out of his mouth as if the pharyngeal muscles closed with a spasm and expelled it. His hands trembled, and there were violent movements of the arms and body with every effort to swallow. He was very thirsty, and with every effort to drink came these spasms; and he could, after repeated trials, swallow but very little of the milk.

The convulsions occurred with every effort to drink; they were not characteristic of any one thing. There was no retraction of the head, no especial movements, except trembling of the hands, rigidity of the abdominal muscles, and a few quick, involuntary motions of the body, and rapid respiration.

He was given an enema of bromide of potassium three times during the night, but he slept very little. On the morning of September 5th, I was called, and found the patient wildly excited and delirious. He wanted to get away; said that some one was going to kill him. Attempting to restrain him, he became furious, and the spasms were more frequent and violent. His lips were dry, and he complained of frequent thirst. The temperature then was 102°, respiration 34, pulse rapid, but of good strength, mouth and tongue extremely dry. Water was given him frequently, which he drank, but always with great effort and violent trembling. It was not possible to restrain him completely, and keep him in bed. It was noticed that he walked with great effort, his gait was very unsteady. From 6 A. M. until 4 P. M., when he died, the spasms increased in frequency and violence.

At ten o'clock he began to vomit, and there was a frothy exudation from the mouth, which was occasionally streaked with blood. He was delirious most of the time. He fancied he was driving a team or taking care of horses. As the spasms increased in violence, he was given:

Chloroform.	3 ss.
Chloral.	gr. xv.
Bromid. potas.	gr. xxx.

Every three hours, by enema.

The convulsions seemed to be excited by talking to him, as well as by the effort to drink. He vomited, at intervals of ten minutes, from about eleven o'clock until three. The vomitus, which at first was whitish and watery, became dark and granular — coffee ground — in appearance. It was frothy, and an occasional streak of fresh blood. Under the microscope the granular substance was shown to be blood. Free hydrochloric acid was shown by the Smaglgruin and the Tropaeolin tests.

The frothy and sticky exudation from the mouth and fauces became more abundant; the expectoration frequent and profuse. It was accompanied by a short, hollow cough. The mouth closed frequently with a quick snap. Several times he tried to bite the attendants as they wiped the froth from his mouth.

At one o'clock the temperature was 102.5°, pulse fairly full, but irregular and intermittent.

With each convolution there were tonic spasms of all the muscles; the abdominal muscles were very hard and resistant. The face was congested and bathed in perspiration. He was given brandy and water to drink; he swallowed with less effort than at first. There was frequent grating of the teeth. The delirium towards the end was continuous, there were no lucid moments. A peculiar smile was frequently repeated. The hands were markedly cyanosed and cold, and the spasms less frequent, one hour before death. The vomiting also gradually ceased; the temperature went up slowly, pulse became small and intermittent, and he laid down exhausted, no longer able to retain the upright position which, up to this time, he had kept. He had complained frequently of weakness and loss of power in the left arm. It was noticed that in the writhings and convulsive movements of the body and extremities, the left arm was quite powerless. Just at the end, the face became markedly cyanosed, and there were clonic spasms of the muscles of the jaw.

An autopsy, by Dr. H. F. Sears, assistant pathologist, on the following day revealed nothing except slight congestion of the medulla and rupture of small blood-vessels in the stomach.

On the same day, September 6th, Dr. Harold C. Ernst, of the Harvard Medical School, inoculated two rabbits with some emulsion made from the medulla. One rabbit died on the next day, from the wound made in trephining. The second showed on the 20th, fourteen days later, well marked symptoms of rabies, namely, paralysis of the posterior extremities, and, finally, paralysis of all the muscles, including those of deglutition and digestion. These are the characteristic symptoms of rabies in rabbits, and since they came on within fourteen days, the virus must have been especially powerful.

— Doctor (to patient). — "What ails you?"

Patient. — "Indeed, I don't know. I only know that I suffer."

"What kind of a life do you lead?"

"I work like an ox, I eat like a wolf, I am as tired as a dog, and I sleep like a horse."

"In that case I should advise you to consult a veterinary surgeon." — *Paris Paper*.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY,
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY
AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

REGULAR Meeting, Wednesday, April 9, 1890, DR. A. L. MASON in the chair.

The Secretary read letters from Dr. Valentine Mott, and Dr. W. A. Dolan, of Fall River, Mass., expressing their regret at not being present. The latter gentleman had seen three cases of rabies within the year.

DR. HAROLD C. ERNST introduced the subject of

RABIES

by reading the following from the publications of the Pasteur Institute:¹

On the first of July, 1889, there was held at the Mansion House, under the presidency of the Lord-Mayor of London, a meeting for the discussion of the measures to be taken to prevent the spread of hydrophobia in England. After the reading of letters from the Prince of Wales, Stokes, Tyndall, Huxley, etc., the meeting adopted the following resolutions:

(1) The meeting is convinced of the efficacy of the anti-rabic treatment devised by M. Pasteur.

(2) The meeting desires to express to M. Pasteur and his collaborators, the thanks of Great Britain and Ireland for their generous aid to more than two hundred English, bitten by rabid dogs.

(3) The meeting requests the Lord-Mayor to start a fund for the double purpose of offering a suitable gratuity to the Institute Pasteur, and for the purpose of paying the expenses of British subjects who are unable to pay their own way to Paris.

(4) The meeting, whilst recognizing the value of the treatment of M. Pasteur, and taking measures for providing treatment for those bitten by rabid dogs in this country, are of the opinion that rabies may be made to disappear from these islands, and invites the Government to present without delay, a bill requiring the simultaneous muzzling of all dogs, — after the plan of the society for the suppression of rabies, and the establishment of a reasonable quarantine for all imported dogs.

(5) The meeting desires to offer its cordial thanks to the Lord-Mayor for the great interest that he has taken in this important work, and for having presided upon this occasion.

Dr. Ernst presented the views of Dr. Charles Schaffer, of Budapest, as follows:

After the period of incubation and the period of prodromes the manifestations of rabies are suddenly developed, during which, the following phenomena successively appear:

(1) In the first place appear the symptoms of inflammatory irritation of the spinal cord and the medulla oblongata: the inspiratory dyspnea, the dysphagia, the salivation, the spasm of the larynx, and the ariophobia, though they may all be very light. The pupils are at this time more dilated than normal, and react readily. At the moment when a peripheral irritation reaches them by the auditory nerve or from the surface of the skin, they dilate, and afterward

quickly contract, and this double movement repeats itself two or three times before it ceases. I have observed this phenomenon in many cases of rabies. It is chiefly manifested at the moment when the inflammatory irritation of the spinal cord, and of the medulla oblongata is most marked. Besides this the reflexes of sensorial character and those of the skin are much augmented. The pulse is frequent, as is the respiration, which is also irregular. The patient has hydrophobia, and turns and tosses without repose in his bed.

(2) The intelligence, which has till this time been undisturbed, is clouded, the patient has hallucinations of painful character, and is often violent. When he believes himself pursued he assumes an attitude of defence, or is even aggressive. He hears the voices of his friends, converses with them, etc. This is the period of delirium and it is not at all doubtful that during this time there predominates an irritation of the cortex of the brain. During the first and second periods, the general reflex irritability is found to be increased, as is indicated by the activity of the reflexes of the skin and the senses.

(3) After the delirium, that is to say, after the disturbance of the intelligence, appear the defects in the domain of motility. The patient has difficulty in walking, stumbles often; the legs can no longer bear up the weight of the body, and they fall. The picture is that of lumbar paraplegia, and this form of paraparesis betrays in the clearest manner its spinal origin. The irritability, which has increased until now, begins to diminish but does not disappear until the commencement of the fourth stage.

(4) Then appear the convulsive phenomena, accompanied by abundant salivation and frequent vomiting, during which the consciousness is lost. The patients pass urine involuntarily, and now and then the respiration takes the character of Chyne-Stokes, and in the midst of these manifestations which accompany the augmentation of the convulsive phenomena, and sometimes true tetanus, death occurs. It is plain that the convulsions correspond to cortical lesions when they present the form of clonic or general spasm.

In order to complete the picture, it is necessary to allude to the temperature in rabies. Ancient and modern authors agree in the opinion that rabies is a febrile affection. The fever presents no typical form, but is accompanied by morning remissions and evening exacerbations. There is a sudden rise in temperature previous to the exacerbation which ushers in the lethal ending of the disease. In a general way the occurrence of convulsions is one of the immediate precursors of a fatal ending of the disease.

These considerations allow the grouping of the phenomena of rabies into the following classes:

- (1) Period of incubation.
- (2) Period of rabid prodromata.
- (3) Period of nervous irritability (augmentation of the reflexes), comprising (a) manifestations originating in the spinobulbar region; (b) delirium (impairment of the cerebral cortex).
- (4) Period of termination, of death (reflexes diminished), comprising (a) paraplegia (cord), (b) convulsions (cerebral cortex).

Statistics obtained from the "Annales de l'Institut Pasteur" were given.

Class A includes those bitten by animals shown to

¹ Meeting at the Mansion House. Ann. de l'Inst. Pasteur, III, 303.

be mad by inoculation, or by the appearance of the disease in other animals bitten. Class B includes those bitten by animals shown to be mad by veterinary autopsy or by the symptoms. Class C includes those bitten by suspected animals.

Among the persons submitted to the treatment, many died immediately afterwards (in a day or two), and might fairly be taken out of the statistics, but are not. It would be fair to take from the statistics all those who developed symptoms before fifteen days after treatment, because this time is that required for the appearance of the disease in dogs after trephining.

Up to the time of the regular publication of the results in the "Annales de l'Institut Pasteur," the statistics of those inoculated run as follows:

	Bitten.	Died.	Per cent.
Class A	233	4	..
Class B	1,931	25	..
Class C	518	2	..
Total,	2,682	31	1.15+

	Bitten.	Died.	Per cent.
Class A	89	1	..
Class B	357	11	..
Class C	127	1	..
Total,	553	13	1.73+

This difference may possibly be ascribed to the longer time that those coming from foreign countries, passed before coming under treatment.

Combining all the cases reported, we have the enormous number of 8,666 persons who have been treated by this method, with 109 deaths recorded: that is, a mortality of 1.25% for the whole number treated. Total cases, Class A, 1,347; deaths 23, a percentage of 1.707+. Total cases, Classes A and B, 7,193; deaths 106, a percentage of 1.47+. Total cases, Class B, 5,846; deaths 83, a percentage of 1.419+.

Bordoni-Uffreduzzi's report to the Syndic of Turin, "Two Years of Pasteur's Cure,"² contains the following:

	Bitten.	Died.	Per cent.
Class A	162	6	..
Class B	137	4	..
Class C	23	0	..
Total,	322	10	3.10+

	Bitten.	Died.	Per cent.
Class A	79	0	..
Class B	108	0	..
Class C	22	0	..
Total,	209	0	0
Grand Total,	531	10	1.88

The same sort of comparative statistics can easily be worked out with the figures given by Pasteur, but it would have required a much longer time than it was possible to give to the preparation of this paper.

Certain Comparative Statistics of the "Simple" and "Intensive" Treatment.

Bites on the Head or Face.

Simple treatment . . . (A and B) 136 bitten 9 died = 6.61%

Intensive " . . . " 50 " 0 " = 0%

All Cases under Treatment.

Simple treatment . . . (A and B) 1,610 bitten 24 died = 1.48%

" . . . (C) 409 " 1 " = 0.24%

Intensive treatment . . . (A and B) 515 " 5 " = 0.97%

" . . . (C) 109 " 1 " = 0.91%

Statistics in regard to the Fatality of Bites without Pasteur's Treatment.

Twenty per cent is an altogether moderate estimate of the death-rate for persons bitten by rabid animals, except wolves, taking the cauterized and non-cauterized altogether.

The death-rate after wolf-bites is to be put down at sixty-five per cent., and the percentage after bites on the face and head, as high as eighty-eight per cent.

In July, 1886, Grancher made an extremely interesting comparison between the vaccine viruses of small-pox, splenic fever and rabies.

Small-Pox. Deaths before Jennerian vaccination, 500 in 1,000; after, 23 in 1,000. Preservative power of vaccination, 21.70%.

Splenic Fever. Figures gathered from over two hundred veterinary surgeons. Deaths before Pasteurian vaccination, 120 in 1,000; after, 5 in 1,000. Preservative power of vaccination, 24%.

Rabies. Statistics from Leblanc and Pasteur. Deaths before Pasteurian vaccination, 160 in 1,000; after, 7 in 1,000. Preservative power, 22.85%.

The duration of the immunity produced by these preventive inoculations, is a matter of much interest, and has been partially determined by Pasteur himself,³ who speaks of an experiment where fourteen dogs were inoculated by trephining with the full virus, after having been "protected" a year before; eleven of these resisted the inoculation. In another similar experiment, four out of six dogs resisted the same method of inoculation after two years from the protection of the method.

Pasteur also believes that the virus diminishes in quantity not in quality, and that the diminution of its effects is due to this fact and not to the gradual diminution in its intensity.

The duration of the period of incubation in rabbits or dogs after inoculation by trephining, is fifteen days — on very rare occasions it is as low as eleven days; then it diminishes after several series to eleven days; then to ten, nine, eight (after about eighty to one hundred series) and, finally, at the one hundred and thirty-third series (December, 1885), it had got down to seven days.

Hoegyes, of Buda Pesth,⁴ speaks of spontaneous cure as possible, on the ground of having seen one dog recover after the appearance of slight paralytic symptoms. He also thinks that immunity may be hereditary, because of his failing to produce the disease on the young of a dog upon which the protective inoculations had been practised.

To come nearer home. In the Legislature of this State, a short time ago, an offer of five hundred dollars was made for the proof of a single genuine case of rabies. At that very time four rabbits were dying in my care from inoculation with virus from a Newfoundland dog that was shot for rabies last January at Harvard Square. This animal bit six dogs, a horse and possibly a man. Two of the dogs came to me after they, too, had died, and both furnished proof of rabies. Last June another case came to my notice. The original rabid animal was shot, and the dogs it had bitten were killed by their masters. It would be better for the cause of medical science if animals suspected of rabies were not killed, but were kept con-

² Ann. de l'Inst. Pasteur, III, 295.

³ Ann. de l'Inst. Pasteur, I, 16.

⁴ Ann. de l'Inst. Pasteur, III, 429.

fined and submitted to examination by a veterinarian or a physician. Lately the brain and cord of a man supposed to have died from rabies in Lowell were submitted to me. An emulsion was made and injected into a rabbit just two weeks ago. To-day the animal exhibited signs of dulness, which precede the true symptoms of rabies.

Dr. Ernst emphasized the need of precautions to prevent street curs from spreading rabies, which he feared was epidemic in this vicinity.

DR. RECORD, of Wollaston, reported a fatal case which came under his own care. On December 16, 1889, an Irish setter dog bit the boy who was in the habit of carrying the daily paper to the house. The owner, hearing of this, came home, and, while chastising the dog, was himself wounded; he does not think the dog bit him, but that he pushed his hand against his teeth.

After this the animal was chained, and on the following morning a neighbor, Mr. White, was bitten by the same dog. The accident occurred in this way: Mr. White came over at the request of his friend to help drive the dog into his kennel and nail him up. He was not afraid; and on his approach the dog barked, wagged his tail as usual, and seemed pleased to see him. After patting him he passed on up the steps; then the dog seized him, inflicting a deep wound in the palm of the hand one and one-fourth inches long, and one tooth-mark on the back.

These three persons came to me immediately and had their wounds cauterized.

The owner, a practical man, in fear lest his dog might be suffering from rabies, went to the city and consulted Mr. Watts and also visited the Harvard Veterinary School, located on Village Street. From the symptoms present he received the opinion at both places, that the dog was probably suffering from an inflamed stomach.

This man did not go to these places to satisfy an idle curiosity. He had heard of the treatment of Pasteur for the prevention of hydrophobia, and told Dr. Lyman of the Veterinary School, that he wished to subject himself to that treatment if the dog showed any of the symptoms of rabies. He was told that the symptoms did not in any way point to rabies—that he might keep the dog and await symptoms, or if the dog troubled him by barking, as there were no symptoms of rabies, he could kill the dog and send it to them for examination. The dog was troublesome. Where to shoot the animal was then the next question. The advice given again was that, the brain symptoms being so indistinct, and the stomach symptoms so distinct, the dog be shot in the head, and thus the stomach and bowels be preserved for examination. This was done, and the opinion previously expressed as to the inflamed stomach seemed to be substantiated, and this diagnosis was confirmed.

The man who was bitten was satisfied that there was no need of his being inoculated to prevent rabies.

The dog's history is this: a dog always cross, snapping at children whenever he came near them. Both his master and Mr. White noticed that some two weeks before the accidents, any little patting on the sides caused the animal to cry out as though he were hurt. On Sunday he refused food, and possibly water, certainly refused water Monday.

From Sunday to Wednesday evening, when he was shot, he refused all nourishment, being about four

days. He was on his chain until Wednesday morning, when he was driven under the porch where his kennel was, and nailed up. I saw him Tuesday night. There was nothing unusual in his appearance, except that he was uneasy and would drag himself along a little as though in pain, perhaps; no howling, no snapping, no paralysis, no frothing. When nailed up Wednesday morning he began to howl, and tried continually to dig himself out. His master says he would have done this at any time. Wednesday, about an hour before he was shot, his owner spoke quick to him and told him to get into his house; the dog immediately made a spring at the door and hit against it with great force. The post-mortem held at the Veterinary School proved to their satisfaction the opinion previously expressed. The alimentary canal was empty of all solid or liquid, except masses of the dog's own hair scattered throughout the intestines, and in the stomach a mass about four inches in diameter. It was thought that this must have been a long time in accumulating.

To recapitulate: a dog living four days, neither eating or drinking, no paroxysm of great fury, no saliva flowing from the mouth, no paralysis, and pronounced by good authority to be suffering from inflammation of the stomach.

To continue with the case of Mr. White: His wound healed kindly, and in due time he returned to his work.

On Wednesday, March 12, 1890, I was summoned to see him. He was bitten, you remember, December 17th, nearly three months before. On the Monday afternoon previous, while at his work in the shop, he went to the faucet for water, and found himself unable to drink—the first distinct symptom then was an inability to drink water. That afternoon or night he was taken with a pain in the right hand, (the seat of the wound), which ran up the arm, and had been more or less severe until I was called Wednesday morning. At this time he appeared somewhat excited, perfectly rational but talkative. He told me he could not drink water. I brought a glass to him and told him I thought he could drink it; but when I carried the glass towards him, he shuddered and asked me to wait. When he would start towards the water he seemed to be in a hurry. I quieted him, and finally I got him to take a number of swallows. It seemed, however, to bother him; and as he could take water from a spoon, we fed him in that way. At his suggestion, we got a straw for him to take water through, and they said he made this go very well. At this time, as I remember, he had practically no fever; his temperature was not above 100°, and his pulse not above 75.

Thursday and Friday his condition was about the same—simply an inability or difficulty in drinking water from a tumbler, excitement and loss of appetite being present; but I think every day I made him drink water from a tumbler. I know that Thursday or Friday night, a neighbor who had considerable influence over him induced him to drink from a goblet, by encouraging him, three swallows of water; which he did quietly and set the glass down.

I diagnosed the case as one of nervous hydrophobia. I have never seen a case of rabies; but I thought I found in Bryant's "Surgery" an exact description of the case under consideration. He says: "What Troussseau has called nervous hydrophobia—that is, true dysphagia brought on by a dread of rabies—may,

however, be mistaken for true hydrophobia; but the sudden invasion of the complaint, generally coming on through the person's recalling to mind or hearing the relation of a case of hydrophobia, and the duration of the dysphagia over a period of four days, are amply sufficient to characterize the complaint, and to enable the practitioner to persuade the patient that he is suffering from mere nervous symptoms, which will vanish as soon as he ceases to fear. Besides, in nervous hydrophobia there is dysphagia only, but no general convulsions, the spasm affecting the pharynx alone, while the breathing goes on with regularity."

Saturday morning there was a slight increase in the rapidity of the pulse, not going above 84, and the fever rose to 101°, other symptoms about the same; no desire for food, and more excitement. Saturday night, Dr. Gordon, of Quincy, was called in consultation. The patient then was greatly excited, talking continually but connectedly. Temperature 101°, pulse 85 to 90. The same symptoms that I have related existed — aversion to water, loss of appetite, excitement evincing itself in continual talk, no convulsions on attempt to drink, no violence, no appreciable amount of saliva, no sputation. The doctor concurred in the opinion I had given, and pronounced it a case of nervous hydrophobia.

Through Sunday and Monday the patient remained about the same, growing weaker but with no fever. He certainly took more or less liquid every day and some toast. Monday night his sister, who had just arrived and was a great favorite with him, induced him to eat the larger part of a cracker. There was then no fever Sunday and Monday, and his nurse thought there was none through the night Monday. Of this we cannot be sure. He was noticed towards morning to become more excited and grow feverish.

At my morning call Tuesday, he had a temperature taken under the tongue of 104°, and a pulse of 120, and was continually talking and excited. At this turn of affairs, I stayed with him for perhaps an hour. He became quiet; in fact there never was a time during his sickness when I could not calm him. At this time I fed him a slice of toast a third as large as the hand, made him drink from a tumbler two-thirds of a glass of milk and half a glass of water containing twenty-five grains of the bromide of potassium. I left him and he was quiet until I called again at two o'clock when I fed him as before about the same amount, but with less difficulty.

The symptoms thus far, and to the end, were not different from what they were at first or when Dr. Gordon saw the patient, except that there were greater prostration, higher fever, more excitement. The shuddering at the attempt to drink was not so great as at first. When he was forced to drink there was no asphyxia, but the trouble was with the pharynx, and also he would move his head from side to side and throw the water from his mouth, this not happening from a convulsion but appearing to be in a measure voluntary. I was led to this conclusion from the fact that, when the tumbler was held to his mouth he drank all its contents. There was no saliva in or about the mouth that ever attracted my attention, no spitting and no convolution.

Dr. Wm. B. C. Fifield of Dorchester, appeared in consultation at about five o'clock Tuesday, and pronounced the case one of true hydrophobia. The general symptoms appeared to me no different at this

time, except that it was evident that the man would probably die. The temperature under the tongue was 104°.

From this time there was a gradual failing until his death at five o'clock Wednesday morning, no salivation, spitting, or convulsion appearing even to the end; the symptoms present being aversion to water, pain in the hand, mania, death. The post-mortem performed by Dr. A. N. Blodgett, of Boston, showed no adequate cause for death, and the brain and spinal cord were immediately transferred to the bacteriological department of Harvard College.

Autopsy, twenty-nine hours after death. External temperature below freezing. Body of man about thirty-three years old, well developed and nourished. Rigor mortis well marked. Post-mortem lividity on dependent portions of body. A pale cicatrix, hardly visible in palm of right hand, following one of natural lines of the palm. A punctiform cicatrix on back of right thumb, with slight lividity in centre. No swelling or any pathological appearance on right hand or arm. Abdomen distended, resonant. No other external pathological appearances. Calvarium removed; translucent; nothing remarkable; membranes not engorged; dura reflected; no adhesions; nerve firm; rather less moisture than normal. Cord uncovered without rupture of membranes. No pathological appearance noticed *in situ*. Cord removed, from medulla to beginning of cauda equina without injury. Dura opened longitudinally; nothing remarkable noted. Body opened. Muscles well developed. Intestines filled with flatus. Lungs entirely collapsed; no fluid in pleural cavities. Stomach contained small amount of fluid. Spleen slightly smaller than normal. Pericardium contained about four drachms of fluid. Heart small, contracted, flabby, soft and friable; appears fatty; valves all right. Kidneys normal.

DR. A. N. BLODGETT: I feel that some apology is due to the Society for the very brief account of the autopsy, and I would state that it was made under circumstances which did not allow a sufficient time for so careful an examination as would under other circumstances have been made.

The appearances upon the body of the man, and those which were disclosed during the autopsy, were not indicative of any pathological process that I could discover, and I do not remember that any one present noticed the indications of any disease whatever; with the single exception of the appearance of the heart, which has been mentioned. The cause of death was not discovered at the autopsy. The condition of the heart was not sufficient, in my opinion, to produce a fatal result; and there were no other sufficient appearances evident at the autopsy (which was confined to the gross examination of the organs) which were sufficient to account for the death. The amount of cerebro-spinal fluid was less than ordinary, but I think that this can be accounted for by the diminished amount of fluid which the patient had taken during his sickness. This was the single, other pathological or unusual appearance which I noticed at that time.

DR. GEORGE H. THOMAS presented the following brief account of a case in Lowell, as it was observed by himself and others:

"Early one February morning before daylight, the patient, while going to the barn to feed a horse, was bitten quite severely on the hand by a stray dog which was not afterward seen. The wound was not dressed

by a surgeon for several hours, but eventually healed nicely. On a Thursday, some six weeks later, the man began to feel under the weather, but kept on with his work. Friday morning he complained of a tightness or constriction across the chest. Later in the day a choking sensation was felt upon swallowing. At first he could swallow a cracker better than he could liquids, and liquids better through a tube than in any other way. In the evening every attempt at swallowing set up severe laryngeal spasms, and, all of a sudden, the patient began to strike at his physician, trying to bite, and uttering unearthly screeches. These spells occurred at intervals through the night until, by the combined effect of exhaustion and medicine the patient became quiet. On Saturday he was suffering greatly from an increased secretion of saliva, which he could not swallow, and could only spit out with difficulty. At each attempt of the attendants to wipe the saliva from off the lips and chin, the patient would snap his jaws and would strike and kick as far as his bandages would allow. Any sudden noise in the room would produce these symptoms. The patient died from exhaustion on Saturday night after being confined to the house only two days.

"I should have added to the foregoing that the patient never feared the disease as a result of the bite, that during the illness there was hyperesthesia of the skin, that there were no tetanic symptoms and that the patient's mind was clear in the intervals of the paroxysms. Several physicians saw the case, and even those who were most skeptical went away convinced that it was a genuine case of rabies."

DR. JAMES B. FIELD, of the Lowell Board of Health: "Perhaps my own impressions on seeing Dr. Thomas's case the afternoon prior to his death may be interesting. I went there with the idea that it was not a case of rabies. I came away convinced from what little knowledge I had of the subject that it must be a case of rabies. I found this man lying back in the easy chair, confined there, mouth full of increased secretion of saliva; at all events on trying to swallow this he would have a spasm of choking, a sort of spasm of the larynx. On attempting to spit the saliva out of his mouth he made a noise which some people liken to the bark of a dog. It was not like that, nor like anything one usually hears. He could spit with difficulty, could get the saliva out on his lips or on his beard and attendants would then try to wipe it off. They would take a long piece of bandage and wipe carefully. Even on doing that he would snap at it involuntarily. At no time when I saw him was there any lock-jaw or suspicion of tetanus or anything of that nature. When the swab was inserted into the mouth to wipe out saliva he would snap his teeth on it. Any sudden noise in the room or motion of the body would start him to strike out with the hand, or to involuntarily snap the teeth together. I had known this man for several years; he was not of a nervous make-up, but rather of phlegmatic disposition. I don't think he had any false hydrophobia or could be scared into anything of the kind. All the doctors who saw him were extremely skeptical as to the diagnosis of the case and I think they all came away convinced that it was rabies.

"In a small city like Lowell, rabies produces more stir than in Boston. People say to me as a member of the Board of Health: 'What is the Board of Health going to do about it?' We came to the conclusion which Dr. Ernst has stated to-night that if anything

was to be done it could be done better by the Veterinarians than by any other way. They tell me that lately they have noticed several cases of what seemed to be true rabies in dogs. In one instance a lady was nursing a sick dog in her lap. A veterinary surgeon was called and found what he supposed to be rabies in the paralytic stage. If we could compel people to report sickness in dogs as in human beings, perhaps we could get something done."

DR. J. J. PUTNAM: I think we owe a great debt to Dr. Ernst for bringing so clearly before us the investigations of Pasteur. The whole study of rabies, as it seems to me, has entered on an entirely new stage. So far as I know the views of Pasteur are accepted by a very large proportion of men eminent in this department. Gowers, who has studied hydrophobia carefully and made microscopic examinations in many cases, has adopted them; and I have recently had the opportunity of talking with Dr. Welch of Baltimore, who certainly stands very near the head of our specialists in bacteriology in this country, and he fully believes in them.

What interests us as practical physicians are the diagnosis and the treatment of this affection. One or two points in the Wollaston case are, I think, interesting. It is said that straw and material of that sort was found in the dog's stomach. Gowers mentions that as one of the diagnostic marks of this condition in animals, — this peculiar tendency in the early stage of the disease to eat things of this kind. With regard to the inability to swallow water. That, I think, may be mentioned in connection with the general subject, the strongly marked mental disturbances and the peculiarity of the mental conditions in cases that are liable to be brought to our notice are certainly such as to mislead, and they have misled many observers and given rise, I feel sure, to the diagnosis of false hydrophobia in many cases. That is the opinion of Dr. Gowers, and he says persons do not very often die of insanity or hysteria in two or three days. In the case I wish to report I was misled and fancied that the disease was probably not one of hydrophobia.

Dr. Putnam then mentioned a case in East Cambridge, to which he was called in August, 1889. The patient, a boy, exhibited symptoms of hydrophobia. He was nervous and excited, complained of pains about the left shoulder and arm and the heart, refused food and drink, and died the same night in fearful agony. There was no record of his being bitten, but he was said to have played not long before with a strange Newfoundland dog. A small scar was found on his left wrist.

PROF. C. P. LYMAN: I wish to refer a moment to the Wollaston case. I regret very much that I am not able to give further particulars and more precise details than I am, but as I explain the matter you will perhaps not wonder at it. When first I knew of this case I heard a man describing with some degree of excitement, a case that had happened at his home; as a result of which he had been bitten, and also a neighbor of his, and altogether I gathered from the general manner that he was very much alarmed, I asked him to come to my office and relate the case. In his relation there was nothing which led me to believe that this was a case of rabies, except the fact that two men were bitten, and we know that dogs bite people when they are not mad. After talking to the man some time he believed, I think, that it was not rabies, but

at the same time he believed that he wanted to kill the dog at once. I urged him rather to lock him up in some secure place, telling him if he did so we could tell better whether it was rabies or not. I understood afterward that he confined him in the kennel and nailed him up. The dog barked a good deal and bothered him, and he shot him the next day or day after. Having shot him through the head with a rifle or revolver, he brought the carcass to the hospital. The head was so thoroughly shot that it was of no use to us. The stomach and bowels we found to be practically empty of all food. There was in the stomach a collection of hair, purely hair, I think. I believe I asked the question whether there were any sticks or straws mixed, and was told there were not. I believe there was in the stomach a hair-ball which is not a very unusual matter, perhaps, of egg shape about three and a half inches in its long diameter, and something like one and a half or two inches in its shorter diameter. Throughout the bowels there were scattered similar collections of hair. One in particular was in the rectum just at the anus, another higher up in the upper one-third of the rectum, and a small one somewhere about the duodenum. A little mucus was in the bowel. There is nothing about a post-mortem of that kind that would absolutely lead one to know that a dog had died of rabies. I may say that in addition to the hair-balls, etc., the mucous membrane of the stomach and intestine was very much reddened, that of the stomach particularly. It is true that in certain cases of rabies in dogs, after death the mucosæ will have the general appearance which it had in this case, will be found much injected. That redness is supposed in rabies to be especially prominent upon the folds of the membranes of the stomach.

So far as the presence of rabies in this neighborhood goes, I will say that ever since February or March of last year it has been within our knowledge at the hospital that something of the sort was among the dogs here about. In one of those months a pointer dog was brought in, exhibiting symptoms which led us to believe he might be rabid. He was put into a room by himself, and quickly developed more or less furious symptoms of rabies. He died in the course of three or four days. Since that time there have been brought to the hospital a great many dogs showing symptoms which would lead one to suppose they were affected with one or the other forms of rabies. I can't say, not having had time to look up the matter, how many dogs were treated, but I don't think there are less than thirty, and there may be considerably more than that. During all of that time there have been a number of cases which have had very interesting episodes connected with them. One is that to which Dr. Ernst has referred. He has given you the history of the Cambridge outbreak. This dog of whom no one knew anything went into the butcher's shop, was eating a bone very comfortably on the sidewalk. When he had finished with the bone, as I understand the matter, he raised himself up, looked about and fastening his eye, so to speak, upon a dog at some distance across Harvard Square, ran across and bit him, and went to another and another. Six dogs were bitten altogether I have heard at that time and I understand, though I did not get it as directly as I got the rest of the story, that a horse was bitten at the time. I did not understand that any man was bitten. The difference between my under-

standing and Dr. Ernst's was that there was no interval between the finishing the bone and commencing the biting. That is immaterial, however.

Of the dogs bitten by that dog, four came to us. The owner of two of them came to my office in the morning and related the history and said: "Do you think that dog was mad? If he was I want to do something to my dogs to make them safe." I told him there was nothing in the history to lead me to know he was rabid, but to set doubt aside he had better bring the dog to the hospital, and let us keep it until such time as the disease might show itself. He said he would do that and went away, but came back and said a policeman had shot the dog, and they buried it. I told him the best thing was to dig the dog up and send it to Dr. Ernst, and see if he could do anything with it, if things had not gone too far. To go on with the dogs brought to us. There were two of them at first. They were both sent to a farm where they had special care and treatment. A little while after that, another man, one of whose dogs were bitten, wanted us to take care of the dog, and see if anything came of it. He was advised to send the dog to Lincoln, Mass., but wanted us to keep him in the hospital. I think it was on the twenty-ninth day after he was bitten that he commenced showing symptoms of rabies, and died rabid a few days afterward. One or two days afterward the first dog which was a terrier died, his owner came into the office and said his other dog, a setter, showed symptoms which made him uneasy, and he wanted us to watch him. At the time his little dog was bitten, he asked his man whether the setter was bitten, and he said he was sure he was not. When the setter was taken sick, the man was asked again, and said that there was once when the dog went out a moment into the Square and he lost sight of him and that was the only time. However, the setter dog developed symptoms of rabies and died. The carcass of the terrier and setter were both sent to Dr. Ernst. He made inoculations from the brains of both of them, and they were profitable of result I think. The dogs that were sent to Lincoln were sent to a man who understands dogs and knew what sort of dogs he was taking under his charge, and he was given orders to report any illness of whatever nature, as soon as it occurred. He has not yet made any such report, that is to say, they are apparently well. I understand that the other two dogs which were bitten in Harvard Square, have died, exhibiting symptoms of rabies.

The period of incubation seems to have been in the terrier twenty-nine days, and in the setter thirty-eight days. In another very well authenticated case which has recently come to my knowledge, the incubation was forty-five days from the time of the bite until the first expression of the rabid symptoms. Speaking of the period of incubation from the statistics of one hundred and thirty-one cases, the disease appeared after the bite in twenty-five within thirty days; in thirty-one it appeared between the thirtieth and sixtieth days after the bite; in seven between the sixtieth and ninetieth days; in five between the ninetieth and one hundred and twentieth days, that is to say, sixty-eight out of one hundred and thirty dogs bitten by dogs known to be rabid, died. The rest at the end of four months were all apparently well.

I think veterinary surgeons generally regard forty-five per cent. as being about the number of escapes of

dogs bitten by animals known to be rabid. Of course a great many things have to be considered. In the case of human beings, if the bites are upon the hands or face, a much larger percentage are fatal than if the bites are made through the clothing. With dogs, those with thick heavy coats are much less apt to contract the disease, than those with thinner hair.

With regard to the popular opinion that warm weather produces rabies more abundantly than cold, all the statistics not only here, but elsewhere, show the opposite to be the case. Somewhere in February or March is the most prolific time.

So far as the symptoms of rabies in animals go, there seems to me to be some further need of description than is commonly found in relation to the matter to-day. It seems to me, that the symptoms as they are shown in dogs, clearly divide themselves into four heads instead of two. The division heretofore has been into *furious rabies* and *dumb rabies*. My own opinion of the matter is this: That certain animals develop rabies without any premonitory signs. Generally the first thing that we know is that the animal bites something or somebody and this form is quickly followed by death. I can illustrate that by relating a case that came to my knowledge two months ago. A man in Cambridge had a collie dog which was playing with his sister. She was throwing a ball to it, and he was bringing it to her, when instead of giving her the ball he bit her hand very slightly indeed. The teeth hardly went through the kid glove and made only an impression upon the skin. The man started to town with the dog, taking the precaution to order his carriage to follow behind him. He walked along the street, the dog following closely. He got along very well as far as the bridge. In passing a couple of men whom he said were tramps, the dog sprang at one and bit him in the leg through his trousers. The owner said: "I am sorry my dog has bitten you. Here are five dollars. Will that be enough?" The man replied: "Yes; I would be glad to be bitten again at that price." As he got into the carriage the dog made a grab for the owner. The owner grabbed the dog on each side of the neck and held him until he got to the hospital. When they got to the hospital I happened to be there and went out and saw a man with a very anxious face holding a dog. The man very quickly related the story. We got proper appliances and took the dog into the hospital placing him in a large stall where he could be conveniently watched. He would look out through the grate, wag his tail, his whole expression seeming to be "come and pat me" and if anything was put through he would grab it most furiously. He was full of agility and died without any premonitory signs. At six o'clock the second morning he was seen to be just the same as usual and at eight o'clock he was dead. During all that time he had not eaten.

The second form comes nearer to that described in the book. The dog begins by being dull, gets out of the way in a dark corner, snaps at imaginary objects in the air, and that goes along for a little while until finally the rabid state comes on and he goes about and bites various articles he comes in contact with. He won't always bite. After a period of frenzy in which he will bite he lies down and keeps still quite a while and then gets up and has another rabid attack and this continues until the dog becomes exhausted and paralyzed and dies.

In the next form there is simply dulness with loss of appetite, the ordinary symptoms of indigestion with paraplegia. Indigestion with paraplegic symptoms is not uncommon in dogs. The dog has a disposition to bite but bites very weakly indeed and has to be urged considerably to bite, has to be roused and then in biting he takes hold in a very half-hearted way.

In the fourth form there is loss of appetite followed by drooping jaw, barking. They will bite furiously at articles thrust at them. General paralysis and death from exhaustion follow.

It would seem to me that the term *paralytic rabies* would be very much better than dumb rabies, because in a number of cases of dumb rabies I have found the animals quite paralyzed.

As to this form of dumb or paralytic rabies the percentage of cases with us is very much greater than in the dumb condition of the furious form. In this last outbreak I think there were at least thirty animals. Of these there have only been three that were furiously rabid. The rest have had one or other of the paralytic forms of the disease. This experience is different from the European statistics. They give the dumb form in fifteen to twenty per cent. of the cases. You will realize that any dog that is paralytic is not as dangerous as one that is not; both being equally venomous. It may be that the slow spread of the disorder among our dogs as compared to what I suppose the spread to be in other countries may be accounted for in this way, that we have such a large percentage of the paralytic form of the disease.

Something has been said here regarding the management of rabies when an outbreak exists, as it undoubtedly now does. Who shall manage it? It has been suggested, on the one hand, that the Board of Health should do so. On the other hand, it has been suggested that the veterinary surgeons should do so. I would remind the gentlemen that veterinary surgeons are merely private individuals, and they do what they can in a quiet way to prevent ill results. I don't think any of us are disposed to go about and make much noise in the matter. Quietly, I think we do what we should do to prevent ill results coming from dogs of this kind. There seems to be a law in this State which would make it rather probable that the handling of this matter should be taken up by the Board of Cattle Commissioners. It would seem to me that they would form the proper authority to undertake, in the first instance at any rate, the management of this matter.

I should like to ask Dr. Putnam if he knows anything regarding the dog that bit this person whose case he reports?

DR. PUTNAM: The dog was a stray cur, and disappeared afterwards.

DR. ERNST: Of six dogs, which this dog in Harvard Square was known to bite, four are known to be dead. It would not be at all difficult to comprehend that this may be the continuation of the same virus.

DR. CUSHING: I understood Dr. Ernst to say that without treatment twenty per cent. of the cases die. Did he mean twenty per cent. take the disease, and all who take it die?

DR. ERNST: What I meant was that twenty per cent. of those bitten by animals known to be rabid die, not that twenty per cent. only take the disease and that all die, but twenty per cent. of those bitten die without reference to how many took the disease.

DR. CUSHING: How many cases proportionately do recover?

DR. ERNST: That is a point upon which I should pay no regard to the statistics published. Personally I feel that it is impossible to make an absolute diagnosis of rabies without the Pasteurian inoculation.

DR. PUTNAM: I would like to ask if one can't be as certain as in the great majority of diseases with which we have to deal, taking cases where death occurs in a few days?

DR. ERNST: I think that is very likely, but I think if you ask me such a question as that, I should have to say that our diagnosis from clinical signs is one of the most uncertain things with which we have to deal. I am speaking from the scientific point of view. We have a method of absolute certainty, and I believe that is the only absolute method.

DR. MASON: If there is to be an alarm in case of rabies, it seems to me we ought to know the number of cases this year as compared with previous years.

DR. ERNST: I only know the quoting of the statistics in reference to the muzzling of dogs, stating that there had been no deaths for twenty years, and Dr. Wolcott informed me that those were chosen years to prove a point. I do not wish to be understood as trying to start a scare. I have seen more cases this year than I have seen before, but I doubt whether there are many more cases. I think that medical men should be aware that there is such a disease. I know some of them do not believe in the existence of such a disease, and scoff at the question, and say that any dog which died of rabies died of indigestion. Now I think that any man who believes that ought to have the facts presented to him, and ought to have sufficient encouragement to stamp out the disease in ways much more efficient than by starting a scare.

PROFESSOR LYMAN: So far as the disease among dogs goes, I can say the hospital started about 1883, and that there was nothing simulating a case of rabies until February or March of last year. The outbreak I saw before was in 1876 or 1877, or in both years.

I am surprised to hear that veterinarians hold to the idea that rabies is a disease that exists in the imagination only. I have never known but one veterinarian who held to that idea, and he seemed to have pretty good reason for it. Several years ago he started for Europe with children bitten by a dog supposed to have been mad, and found, on his return, that the dog was well and hearty.

DR. MASON: Hydrophobia seems to be very rare in this community at present, but in 1875 or 1876 there was a slight epidemic, and I believe at that time there were, perhaps, three cases within a year or two occurring in this vicinity. I think since the City Hospital was inaugurated, twenty-five years ago, there has not been a single case inside the hospital, or in the out-patient department. It is to be hoped that the present epidemic will last no longer than the previous one to which Dr. Lyman referred.

—"School Life in Relation to Growth and Health" is the title of a paper by Prof. Axel Key, of Stockholm, to be published in the November *Popular Science Monthly*. Professor Key maintains that the studies of children, as now ordered, do not allow enough time for rest and growth, and urges a reform in this respect.

AMERICAN GYNECOLOGICAL SOCIETY.¹

CONTINUATION OF THE DISCUSSION ON ECTOPIC PREGNANCY.

DR. HOWARD A. KELLY: of Baltimore, referred to Mauriceau's case of extra-uterine pregnancy in 1669, described as follows: "History of a woman in whose abdomen there was found, after death, a small fetus about two and a half inches long, together with a great quantity of coagulated blood." The woman had borne eleven children at term, but in the twelfth pregnancy at two and a half months, the uterus dilated in the direction of the right horn and ruptured. It was thought by many to be a true tubal pregnancy, and cited as an instance of retention of an ova in the tube, becoming fecundated, but subsequently going on to gestation within the tube, and final rupture. Mauriceau called it a hernia from the uterine body proper, and was much opposed to its being called a tubal pregnancy, which it was not. It was plainly a case of pregnancy in a rudimentary cornu uteri demonstrated by a small bridge of tissue between the fetal sac and the uterus; decidedly not a tubal pregnancy, because the round ligament of the right side was displaced downwards.

In the last century there was much excellent work done in this direction. The best plates ever published on abdominal extra-uterine pregnancy, were by Deutsch, in 1792, showing the fetus, life size, in the belly of the mother, attached by the cord to the placenta which is implanted low down in the abdominal cavity.

The speaker believed it was possible to recognize the following forms of extra-uterine pregnancy: (1) Interstitial, (2) tubal, (3) tubo-ovarian (doubtful), (4) ovarian (proven beyond a doubt by the cases of Gottschalk in the *Centralblatt* 1886, Patenka, Leopold and Spiedelberg), (5) primary abdominal (remaining to be proved). The tubal may be divided into (a) isthmal; (b) isthmio-ampullar; (c) ampullar, according to their relative position in the tube.

The critique of ovarian pregnancy: an extra-uterine fetal sac, which must have the same relation to the uterus as the ovary maintains; the tube must remain intact, and the ovarian ligament connecting the side of the sac with the uterus, must be present. The ovarian ligament is as important to the establishing of ovarian pregnancy, as the round ligament is to that of interstitial pregnancy.

In a case five months beyond term, recently operated upon in the Johns Hopkins Hospital, by Dr. Robb, which proved beyond question to be an unruptured tubal pregnancy, ovarian tissue was present in the sac wall, which goes to show that the mere evidence of ovarian tissue in the walls of the sac is not conclusive of ovarian pregnancy.

It is interesting to note how the men, who claimed no diagnosis could be made, have shifted their ground since so many positive diagnoses have been made, and now say that diagnosis cannot be made before rupture. Very few cases are seen before rupture, but the following case was diagnosticated by the speaker, and seen by Dr. Robb before rupture, and operated upon with removal of the unruptured sac:

Mrs. B., aged twenty-two, had been married three years, had had one child and one premature still-birth.

¹ Fifteenth Annual Meeting, Buffalo, N. Y., September 16-18, 1890. Continued from page 353 of the Journal.

Came under observation early in December, 1885. Had menstruated regularly up to July previous, but from that time to middle of November she had not menstruated. Menstruation began again in the middle of November with the discharge of "a piece of flesh," as she termed it, and with the re-establishment of menstruation she was relieved of severe pain arising from a lump low down on the right side, from which she had suffered constantly since early in October. First examination showed a very smooth, tense, elongated tumor, anterior to the cervix, lying far back in the sacral hollow; it could be easily felt over the whole extent of the anterior vaginal wall, extending above half way to the umbilicus, presenting a peculiar tense fluctuating feeling; uterus small and retroverted, reclining in the hollow of the sacrum. At her next visit she thought herself pregnant. The uterus could not be felt so clearly, and the case presented the appearance of extreme anteflexion of a pregnant uterus. After this she had several bloody discharges up to March 8th, when she had regular flow for five days. At this time a tense ovoid cyst could be felt through the anterior vaginal wall on the right side, its axis in the plane of superior strait, anterior extremity at symphysis pubis to the right, posterior extremity at right cornu uteri; connected by short pedicle to the uterus; sensitive, smooth, and had remarkable rubber-ball elastic feeling, much tenderness low down on left side, where there is an indistinct worm feeling about the retrosposed cornu uteri. The tumor had diminished remarkably in size while under observation. Diagnosis of extra uterine pregnancy positively made, and operation performed in presence of five other gentlemen.

In these cases it is always best to assume that the worst condition is present until by proof it is excluded.

The most recent case in which diagnosis was correctly made before operation was in the practice of the speaker, at the Johns Hopkins Hospital, before thirty-two witnesses, confirmed by operation, removing well developed fetus from the abdominal cavity, where it had escaped from a ruptured tube. Diagnosis can be positively made if the following symptoms are present: (1) Cessation of menstruation followed by irregular recurrence. (2) Pain in the lower part of the abdomen. (3) Fluctuating tumor. (4) Enlarged uterus (not always present). (5) Discharge of membrane, which is very characteristic. (6) Milk in the breasts. (7) Tumor diminishing in size under observation, a pathognomonic sign rarely present, unless electricity be used, which, of course, implies death of the fetus.

There is another class of doubtful cases where some of the symptoms are present, and still another class of uncertain cases where there are no signs, and which are generally discovered accidentally. If he finds a freely movable tumor in the abdomen, he would perform laparotomy; but if the tumor has ruptured into the broad ligament, he would use electricity, and wait for results up to the end of the third month. He would not consider the life of the fetus to the detriment of the life of the mother, but consider the fetus simply as a malignant foreign body. If he had a living fetus at term, he would open the abdomen; and if it proved to be an unruptured tube, with the placenta enucleated in the sac, the latter could be removed, and the life of the fetus saved. If the placenta were attached to the intestines, he would remove the fetus, and drop the fusi back into the abdominal cavity, and later perform laparotomy if necessary.

DR. HUNTER ROBB, of Philadelphia, believed that the tubes were the most frequent site of fecundation, that ovarian pregnancies do take place, and agreed with Dr. Jaggard that microscopical examination is alone reliable in determining this condition. He believed the diagnosis as easy as that of fibroid or parovarian cyst. He corroborated Dr. Kelly's cases.

DR. JOSEPH TABER JOHNSON, of Washington, remarked that the paper of Dr. Hanks, read before the Society in 1888, gives the history of eleven cases, with the statement that diagnosis ought to be possible in ninety or ninety-five per cent. of all cases; that he believes in electricity in the beginning, and operation afterwards if necessary. He thinks electricity will kill the fetus, and that in all cases of rupture the operation should be done at once.

DR. A. H. BUCKMASTER, of Brooklyn, thought it would be a fatal blow to the use of electricity in these cases if it should be proved that it could not accomplish the destruction of the fetus. In reply to Dr. Baldy's accusation that he had, with twenty milliamperes, failed to kill the fetus, he said that there was a large fibroid tumor present, through which the current was passed, and that very little could reach the fetus *in utero*; that it is unfair to assume that, because the current applied at a point outside the fetus in the uterus failed to kill, that it would not destroy the fetus in the tube, and that it was not a case to be quoted against the use of electricity.

DR. J. A. TEMPLE, of Toronto, related a case of extra uterine gestation on which he operated, and removed the tumor and tube without rupture. Patient made good recovery, and stitches were taken out on sixth day. On the eighth day she had a severe attack of mania, and talked incessantly day and night for three days, resisting all methods of treatment. On the twelfth day she became semi-comatose, did not recover consciousness, and died on the twenty-third day perfectly insensible. Passed abundance of urine during convalescence, which showed no traces of albumen, no symptoms of paralysis present. Fed with stomach tube for eleven days. He was confident the patient did not die from septicemia or other similar affection as the result of the operation, which, he believed, was a case which had every indication for such a procedure, but that she died from some unknown cause. No post-mortem could be obtained.

DR. MATTHEW D. MANN, of Buffalo, reiterated the views expressed in his paper in regard to the specimen which he presented two years ago, and notwithstanding Dr. Johnston's doubts of its genuineness, he still held it to be a true ovarian pregnancy. His opinion in regard to the use of electricity in properly elected cases was also unchanged.

DR. A. W. JOHNSTONE, of Cincinnati, doubts the existence of ovarian pregnancy, and believes he has never seen a true case. He believes the electrical treatment subjects the patients to all the recurrent evils of pelvic disease, and the only safe method is to cut in and clear everything away without delay.

AFTERNOON SESSION.

A paper by Dr. Andrew F. Currier, of New York, on

UNDER WHAT CONDITIONS CAN ELECTRICITY BE OF
POSITIVE SERVICE TO THE GYNECOLOGIST?
was read by title.

DR. E. C. DUDLEY, of Chicago, read

IN MEMORIAM — DR. WILLIAM H. BYFORD.

DR. W. C. FORD, of Utica, read a paper on the
QUESTION OF AMPÉRAGE IN THE TREATMENT OF
FIBROID TUMORS BY ELECTRICITY.

Myomatous growths are easily managed by galvanism. They are of comparatively low resistance, a very large and hard one offering but 300 ohms. The question has been asked, "What happens when the current passes through fibroid mass?" Simply the separation of the fluids in this mass and their reformation into different chemical combinations which interfere with the intra-uterine existence of the growth. This is merely a process of electrolysis. The current necessary to produce this electrolysis is not one of tension, but of volume or quantity, and this depends entirely on the cell which is used. The small bichromate of potash battery with a single plate of zinc and carbon which we find so much in use, unless a very large number of cells are employed does not give sufficient volume, has not sufficient ampérage to effect the necessary electrolysis, but by using a larger cell having a zinc plate between two good sized carbon plates, say (7×2), we get a greater surface exposed for chemical action and hence a greater volume, or ampérage of current, which affords sufficient electrolytic action to decompose the fluids of the fibroid tumor and arrest its growth, but with high tension and low ampérage as in the small cell battery, this result cannot be accomplished without employing a great number of cells. The latter has an electro-chemical action or cauterizing action, while the former produces simple electrolysis.

He uses the negative or active electrode in the uterus and positive electrode externally over the abdominal wall. His uterine electrode consists of a pure platinum needle with a blunt end like Apostoli's needle. He has also used the gas carbon electrode. For an abdominal electrode a plate of copper, covered with punk is substituted for Apostoli's clay electrode. The plates are of all sizes. The fluids of the tumor decompose at the internal negation electrode and bubble up and run out over the electrode in sufficient quantity to be caught in a spoon speculum, after a few minutes application, if the current have the proper ampérage. The author has accomplished this with a battery of fifteen of the large bichromate of potash cells referred to. The fluid of the tumor has an intense chlorine smell, and is strongly alkaline. The current is well distributed by the abdominal electrode, and there is no risk of blistering the abdomen as there is absolutely no cauterization produced.

The author was convinced that the cure of these fibroids by electricity could be brought about in no other way than by having a sufficient volume of electricity carried by the electrode to produce perfect electrolysis.

(To be continued.)

— Women who practise medicine suffer from inconveniences at times, as for instance: A man rang a door bell of a female physician at night, crying: "Quick! Tell the doctor to hurry, as my wife is about to be confined." Then the husband of the female physician, who had opened the door, responded: "It is impossible for the doctor to go at this moment. She is about to be confined herself."

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THE PATHOLOGY OF INFLAMMATION.

INFLAMMATION PRIMARILY DUE TO A MORBID ALTERATION OF THE BLOOD-VESSELS.

EARLY in this century, Broussais, Andral and Brown taught the irritability theory of inflammation. The natural irritability of the tissues is manifested in all the physiological processes, in fact, life is itself but the incessant reaction of the anatomical elements against irritant agents, external and internal; inflammation is nothing but the product of an irritation more intense than is compatible with the normal state.

The most distinguished advocate of this doctrine is Virchow. According to the view enunciated in his cellular pathology, inflammation consists essentially in a hyper-activity of nutrition. An abnormal stimulus acts upon the living elements of a part, either directly or through the medium of the blood, in such a way as to cause them to attract to themselves and absorb a larger quantity of nutritive matter than usual. As result, changes in the composition of the part take place, which render it less capable of performing its functions.

Burdon-Sanderson, in his Lumleian lectures, 1882, emphasizes these textural alterations, while rejecting the hyper-nutrition theory. The essential nature of inflammation is expressed in the words injury and damage; the tissue changes cannot be regarded simply as a modification of normal processes. We have not merely disorder of function, but arrest. Inflammation is a phenomenon of diminished or destroyed vitality. Stasis is the mechanism by which inflammation kills. As regards stasis, the first stage is retardation, and this is due to widening of the blood-vessels. They dilate because they have lost their tone, that is, are damaged in their vital properties. Slowing of the stream is the essential condition of exudation and emigration.

Sanderson describes the part which bacteria have in the changes attending inflammation. The damaged tissue becomes a fit breeding place for micro-organisms, and they are the mischief spreaders. They have generally a secondary rôle, though in the infective inflam-

mations their rôle is that of direct causation, here they are the phlogogenous agents. Sanderson had made many careful observations of the inflamed cornea, chloride of zinc being the caustic irritant employed. The results were thus recorded: "No reaction, no perverted nutrition, nothing but damage, which might be compared to that which a corrosive liquid would do to a watch." The truly inflammatory phenomena are due to the participation in the injury of the adjoining marginal blood-vessels.

A careful study of these Lumleian lectures shows that the leading idea is substantially the same as that taught for many years by the late Julius Cohnheim, and formulated in his lectures on "General Pathology," a translation of which has been published this year by the Sydenham Society.

Cohnheim considers the numerous theories which have been adopted to explain inflammation. The neuro-humoral theory has had many illustrious advocates; it presents itself in two modified forms, an ischaemic and a paralytic. According to the former, it is to the contraction of the afferent arteries of a part, reflexly called forth by the excitation of sensory nerves, that the slowing of the capillary stream is due. According to the second, it is a reflex relaxation and dilatation of the arteries that occasions the inflammatory hyperemia. Now, narrowing of the arteries, Cohnheim says, can only produce anaemia, or, when extreme, necrosis. With respect to active hyperemia, it can only exceptionally give rise to exudation. Moreover, it has been proved that parts unconnected with the remainder of the body, except by means of their principal vessels, may undergo inflammation. In the frog, the tongue may become inflamed, even when the brain and medulla oblongata are completely destroyed. An eye whose trigeminus is paralyzed, or an extremity with complete paralysis of sensation and motion, is not for this reason inflamed, nor is it by any means protected against inflammation.

The cellular theory of inflammation presupposes an attraction of the tissues or tissue-cells on the vessels and their contents; the tissue-cells swell and enlarge, and give birth to new cells, the pus corpuscles. Such an attractive influence, says Cohnheim, could at most relate only to fluids, in the case of which we are acquainted with certain analogies in the phenomena of diffusion. But how the tissue-cells have the ability to entice colorless or red corpuscles out of the vessels is not readily comprehended. Add to this, that it can be shown with absolute certainty that in many instances, not only is marked hyperemia present, but also very considerable transudation, before the slightest change has occurred in the tissue-cells. These cells are indeed in many cases deeply affected by the causes of inflammation, and such as have survived the actual onslaught of the exciter of the inflammation must very often subsequently succumb to disintegration — necrosis. These cells, however, according to Cohnheim, do not form pus cells, which are, in all instances, extravasated leucocytes which have become dead.

If, then, inflammation begins neither in the nervous system nor in the anatomical elements of the part, the process must start in the blood-vessels. Here we come to the fundamental conception of inflammation (a conception for which we are indebted to Cohnheim) as the expression and consequence of a molecular alteration in the vessel walls. By this alteration, adhesion between the vessel wall and the blood, and in consequence, friction is increased; the result is the retardation of the blood stream within the inflamed district. On the other hand, the permeability, the porosity of the walls is augmented by the molecular change; the result is an increase of transudation and of the albuminous contents, as well as the admixture of colorless and red corpuscles with the transuded fluid. The inflammatory product is a true genuine filtrate, that is, a fluid which has passed through the actual pores of the filter, and not through new stomata in the intercellular cement; only the chemical alteration in the vessel wall has made the natural pores a little coarser, so as to let through more colloid substance along with leucocytes and red corpuscles. The exit of leucocytes does not depend on spontaneous movements (as some have taught), but is a mere process of mechanical filtration.

As for the causes of inflammation, it may be affirmed that every agency by which the chemical constitution of the vessel walls is at all altered, and which, on the other hand, is not so powerful as to bring about the death of the vessels, is capable of producing an inflammation of the part of the body concerned. Causes may be classed under three principal heads, as traumatic, toxic and infective. The agencies capable of injuriously affecting the vessel wall are multiple.

But little that is new has been added with reference to the cardinal symptoms and signs of inflammation which have been recognized in all ages. That which especially distinguishes inflammation from active or passive hyperemia is certainly the exudation; on this point all are agreed. What we owe especially to Cohnheim is the demonstration that it is only the vessel wall which is responsible for the entire series of events in inflammation. That we are not dealing with an action on the blood, says this writer, is evident *a priori*, for the blood is continually in motion, and can never be more than momentarily exposed to the local action. The vaso-motor nerves may with equal certainty be excluded. The fact that the vessels are wont, under the influence of the agents employed by us, to dilate very much more than is ever the case in paralysis of the vaso-constrictors or stimulation of the vaso-dilators, seems to weigh against this participation. Thus, the dilatation and injection of the rabbit's ear, following division of the corresponding sympathetic, increases considerably on painting it with croton oil or on introducing it into hot water. Moreover, all the effects that have been described set in, in precisely the same way and with equal promptitude, in parts deprived of all connection with the central nervous system. Lastly, we have not to do with an action or re-

action of the tissues surrounding the vessels. For no alterations are observed in the latter except, at most, such as are of a deleterious character, as, for example, coagulation or rupture of the muscle-fibres, stoppage of the whipping motion in the ciliated epithelium of the tongue, and the like; "we are, therefore, compelled by exclusion, to come back to the vessel walls as the essential originating focus. According to this view, then, we have here to deal with a molecular change of the vessel walls, whose highest degree involves the death of the latter, but whose slighter degrees, on the other hand, call forth a certain typical series of abnormal events in connection with the motion of the blood and the transudation. The sum total of these events, together with their consequences, have been for ages comprised under the notion and name of inflammation."

A PLEA FOR CONSERVATISM IN MINOR GYNECOLOGY.

THAT there is too much minor gynecology at the present day is a very common opinion, especially among those who see much serious pelvic disease. A plea for greater conservatism was lately made by Dr. Joseph Price before the Philadelphia County Medical Society, and was sympathetically received by the gentlemen taking part in the discussion.

Many cases of major pelvic trouble are due to minor operations, which have become the fashion to such an extent that they are often looked upon as routine treatment by a large class of practitioners of more or less limited gynecological training. But diagnosis in the pelvis is difficult, dormant or unrecognized pelvic inflammation is not infrequently lighted up by an apparently trivial procedure and the foundation laid for a future laparotomy.

Emmet himself has called attention to the dangers of his cervical operation except in carefully selected cases. Many patients are left in a worse condition after the repair of the cervix than they were in before. It should not be undertaken except in case of absolute necessity until the absence of any pre-existing pelvic disease has been ascertained.

Another favorite operation which is much abused is the forcible dilatation of the cervix. Dysmenorrhoea is not relieved by this process unless it be due to actual stenosis of the os or cervix, but many women with what might be considered a stenosis of the os have no dysmenorrhoea. A very small opening is all that is required for menstrual drainage. It is therefore necessary to make a careful study of all symptoms before concluding that the trouble is due to obstruction to the flow. Although relief is often obtained, it should be borne in mind that forcible dilatation is a distinct traumatism, and as such is never entirely free from danger.

The uterine sound is responsible for much inflammatory pelvic trouble, especially since it has become a common instrument for diagnosis and is a particular favorite of the less skilful examiner, although nearly discarded by many men of larger experience.

A strong objection to the use of electricity by the tyro is the mechanical disturbance due to the frequent and careless introduction of the sound and electrode. The curette also, although a valuable instrument, has been the indirect as well as direct source of a long list of victims. And finally the routine treatment by caustic intra-uterine injections has often hastened, if not caused, pelvic inflammatory trouble leading at last to abdominal section.

MEDICAL NOTES.

— According to official returns from Spain, 1,814 fresh cases of cholera and 959 deaths occurred during the month of September, thus bringing the totals since the beginning of the epidemic up to 4,870 attacks with 2,516 deaths.

— The Belgian Parliament has recently passed the following law restricting the practice of hypnotism:

SECTION 1. Any one who exhibits in public a hypnotized person shall be punished by imprisonment for not less than fourteen days, nor more than three months, and a fine of from twenty six to one thousand francs.

SECT. 2. Any one not licensed to practise medicine who hypnotizes a person under eighteen years of age, or a person of unsound mind, even if such person is not in any way exhibited in public, shall be punished by imprisonment of not less than fourteen days nor more than a year, and a fine of from twenty-six to one thousand francs.

SECT. 3. Any one, who with fraudulent or malicious intent, allows a hypnotized person to write or sign a document of any nature shall be punishable by imprisonment with hard labor. The same punishment applies to any person who makes use of such a document."

— A warning comes from New Zealand which it may be well to bear in mind in this country also. Dr. Trevor (Ashburton) writes to the Christchurch editor of the *New Zealand Medical Journal*:

"I have been intending to ask you for some time past to warn the profession, through the *New Zealand Medical Journal*, of the danger they run in using hypodermic syringes made in France or Germany. They are not marked for English measurement, although it looks exactly the same, but on measurement 5 m. is exactly 10 m. English measurement. I found this in one I obtained for the hospital, and on examination of the stock kept by the chemist, they were nearly all the same. The wholesale firm from whom they were obtained, stated they had sold a great number of the same kind. There is nothing to distinguish them from others with English measurement, consequently I fear serious mistakes must happen."

— Dr. Cheeves Bevill, of Winfield, Ark., reports (*Medical Record*, September 27, 1890) the case of a woman, about twenty-five years of age, who was in the fifth month of pregnancy, and was suffering from prolapse of the uterus. A physician had ordered an in-

jection of lead-water or alum, and this was given by the husband of the woman. After about two ounces of the wash had been thrown into the vagina, the patient raised herself up, exclaiming, "I feel so funny," and sank back and died.

— In New Orleans the women of the "Unsectarian Aid Society" have for the past three years carried on a training-school for nurses. They have decided to open, in connection with the school, a hospital for women and children, which shall be available for poor as well as for paying patients. Any physician will be permitted to send a patient there, and can continue in charge of the case. The nursing will be done by the nurses of the training-school. The Society will devote all its efforts to furthering the interests of the new establishment, but will also appoint an advisory board of business men to assist in the management, and work will be begun at once. It is expected that the place will be ready by November 1st. In the meantime subscriptions, even of small amounts, are sought. For the present, two large houses are hired, and the necessary changes in them will be made, but it is expected that in the near future suitable buildings will be erected.

NEW ENGLAND.

— The Boston daily papers warn the physicians of the city to look out for a man who calls at doctor's offices and says that he will wait. He does not wait, but leaves with anything which happens to take his fancy. He has lately been at work at the South End.

— A citizen will bring suit against the city of Salem to recover damages for a case of typhoid fever alleged to have been caused by the offensive contents of a barn cellar on the adjoining estate. The plaintiff's wife was taken with the fever and is now seriously ill. The attention of the Board of Health has been repeatedly called to this cellar, but the nuisance was not permanently abated until after the outbreak of the disease, when, by order of the Board of Health, the cellar was filled up.

— The Connecticut Medical Society is making preparations to observe its centennial anniversary in 1892. Dr. Gordon W. Russell of Hartford, has been invited to prepare a medical history of the Colony and State previous to 1792, and Dr. Francis Bacon of New Haven, is to write the history subsequent to that date.

NEW YORK.

— Chief Engineer Fteley of the Croton Aqueduct, has presented a communication to the Aqueduct Commissioners in which he describes a new plan for providing an increased storage of Croton water, and brings forward strong arguments in its support. In view of the fact that the project for a great dam near Quaker Bridge was postponed until the completion of the aqueduct, and in the meantime a system of subsidiary reservoirs has been put under way, he recommends the abandonment of the Quaker Bridge scheme, as at first proposed, and the construction instead of an earth and masonry dam about one mile below the

present reservoir. The necessity of largely increasing the capacity of that reservoir is recognized by all, but the plan proposed by Mr. Fteley could be carried out in about one-half the time, and at less than one-half the cost required for the original project. He calculates that it would impound the flow of a watershed only six per cent. less in extent, and would afford sufficient storage to supply the aqueduct with a continuous flow of 250,000,000 gallons a day through the most protracted dry seasons. This, with the other provisions for storage farther up the valley, would be amply sufficient for the next twenty years, at the end of which time it seems probable that some other source of water-supply than the Croton watershed would have to be sought in any case.

— The new system of State care of the indigent insane went into effect October 1st, so far as the present accommodations of the State hospitals will permit, but additional appropriations of considerable amount are required from the Legislature before the reform can be carried fully out. It will be remembered that New York County is one of those exempt from the provisions of the new law; but from a recent presentation of the Grand Jury, it is evident that there is room for improvement in the city lunatic asylums. It points out that in the one on Blackwell's Island, with a maximum of 1,200, there are now 1,684 patients under care. While the main buildings are solidly built of stone, the additions called the pavilions are of frame, resting on the surface, with no air currents underneath to prevent dampness, and some of them are so old as to actually require propping to avoid a collapse.

Miscellany.

PERICARDITIS IN CHILDHOOD.

KNOFF (*Rev. mens. des Mal. de l'Enf.*, April, 1890, and *American Journal of Medical Sciences*, August, 1890), reports ten cases of pericarditis in children. Of these ten there were three under one year of age, three between one and two, and four between six and ten. Pericarditis in the newborn is usually due to a septicemic process, which starts from the maternal organism, or else from the umbilicus of the child. Of the chronic diseases which predispose to pericarditis, tuberculosis is a good illustration, as are also all the inflammatory processes of the pleura, lungs, sternum, vertebral column, bronchial and mediastinal glands, thymus, and esophagus. Pericarditis may also follow inflammation of the abdominal organs and peritoneum. In six of the author's cases the disease followed inflammation of the pleura and lungs, in one it followed chorea, in two scarlatina, and in one the cause was not ascertained. In very young patients there is often an absence of the ordinary physical signs which reveal the disease in the adult, including weakening of the heart-sounds and increase in the area of cardiac dulness. In fact the disease may develop without any appreciable symptom. Autopsies made by the author showed that the exudation was usually not abundant, and hence it could not influence the position of the

heart, the area of dulness, or the relative position of contiguous organs. The exudation was also fluid in character, without fibrinous deposit, and hence the absence of friction murmurs. In older children the diagnosis is also a matter of difficulty, and when pericarditis is suspected an examination should be made every day, to observe the slightest modifications which may occur in the physical signs. The earlier in the case a diagnosis is made the more favorable will it be as to treatment. Among the unfavorable complications may be mentioned adhesion between the two layers of the pericardium, for paralysis of the cardiac muscle will result with extensive dropsy. Symptoms of this form of cardiac paralysis are small and frequent pulse, subnormal temperature, œdema of the cheeks, lids, and lower extremities, and albumin in the urine.

A CASE OF TUBERCLE INOCULATION.

DENCKE, in the *Deutsche Med. Wochenschrift*, 1890, No. 13, puts on record what seems to be a remarkably good case of tubercle inoculation.

A strong and apparently very healthy child, of four months of age, fell head first into a chamber vessel, breaking it, and making an extensive skin wound of the forehead and nose. This vessel was filled with the mother's sputa, which was known to contain tubercle bacilli. The open wound on the child's head was bathed in the sputa for some time, but was finally washed out with corrosive sublimate solution, and dressed with iodoform collodion. The wound healed by first intention, but six weeks later the line of cicatrix had become livid and swollen, and an abscess had formed in the left parotid region, the contents of which contained a large number of tubercle bacilli. Later the lymph glands of the same side of the neck became swollen, and the child finally died of tuberculosis.

The criticism that the disease may have been inherited, the author answers by quoting Carnet's conclusions that congenital tuberculosis is extremely rare, and by pointing to the remarkably healthy appearance of the child previous to the local infection.

Correspondence.

[From our Special Correspondent.]

PARIS LETTER.

SKETCHES OF WELL-KNOWN MEDICAL MEN IN PARIS.

PARIS, June 6, 1890.

PROFESSOR POTAIN.

DR. POTAIN is Professor of Clinical Medicine at the Hôpital La Charité. He is quite a figure both physically and intellectually. He cannot be said to be good-looking, but his face is very expressive of great intelligence and goodness. He is much liked by all who know him and his pupils are much attached to him, so much so that they have given him the name of Father Potain. He is incontestably one of the leading physicians of France, which position he has acquired from the remarkable powers of diagnosis he possesses. In a purely scientific point of view, others may have gained a wider reputation, — Professor Charcot, for example, to whom we are indebted for so much of what we know about the nervous system — but as a general practitioner, Dr. Potain certainly takes the lead. It was his

work on "Diseases of the Chest" published more than twenty years ago, which first brought him to notice and still forms the standard work on diseases of the lungs and of the heart. His consummate skill in diagnosis of diseases of the heart has become proverbial, and he has considerably enlarged the domain of our knowledge in this point of view. But the dread of publishing a hazardous opinion renders him infinitely timid and circumspect. He pushes his scientific loyalty to its extreme limits, and it is on this account only that his works are rare, and that he is less known in foreign countries. But, it is acknowledged by all, that he is none the less the master type of a clinical teacher, celebrated as he is for the certainty of his doctrines and the impeccable professional dignity of his representations. As observed above, his pupils esteem him much, and although he speaks in a low voice his lectures are always largely attended. He is perhaps the most occupied medical man in Paris, and the demand on his time is so great that he is obliged to have a list of applicants for consultations and patients must think themselves fortunate if they can obtain an interview at the end of eight or ten days. Although his whole time is taken up between the hospital and his private practice he does not hurry his patients through but examines each with scrupulous patience, and never leaves them until he has formed as precise a diagnosis as modern science will permit. Besides these qualities he practises his profession with great disinterestedness; so much so, that his colleagues have several times been obliged to ask him to raise his charges so as not to injure the other members of the profession.

DR. EMPIST.

Although not a very old man, the name of Dr. Empist has been so familiarly known to two or three generations of medical students that when his name is mentioned astonishment is expressed at his being still alive, which may be accounted for by the following reason: In the year 1864, Dr. Empist published a memorable work on "la granulie," which, at the time, created a great sensation. With great talent Dr. Empist studied the phenomena, till then imperfectly known, of tuberculosis of rapid course; before this, writers had but vague ideas on the acute manifestations of this disease, and the names of cerebral fever, galloping consumption were given rather at random. Dr. Empist regulated this state of things, classed the symptoms, precisioned the pathological anatomy in a most able manner, so much so that in a hot controversy with the celebrated Virchow he gained the day. From that time the author soon became renowned, his work was placed in the first rank among the classical works, and the young doctors, accustomed since twenty-five years to read the name of Empist in all the manuals and in all the treatises of internal pathology were led to the inference that this celebrated physician had at least one foot in the grave. But such is far from being the case, as every morning Dr. Empist may still be seen at his service in the Hôtel Dieu, and those who follow him in his daily visits can bear testimony that he is not so old as he is thought to be. His inaugural thesis, which treats of paralysis consecutive to luxations, dates only from 1850, he is therefore scarcely more than sixty-five or sixty-six years of age. He now scarcely occupies himself with scientific works; hospital and private practice taking up the whole of his time. Of a very modest nature, and satisfied with his notoriety, Dr. Empist has published little that is noteworthy since his work on granulie. He is much esteemed by his pupils as well as by his confrères.

DR. TILLAUX.

Dr. Tillaux is considered to be one of the most upright men in the profession. He is an excellent surgeon and amply merits the sympathetic admiration of his confrères, his pupils and his patients. As a practitioner he is very successful, he is not only one of the most busy surgeons of Paris but he is summoned to all parts of Europe in consultation. He is surgeon to the Hôtel Dieu and he is much esteemed by his pupils. He excels in the art of diagnosis, and puts himself to great pains to impart his knowledge to

others about him. He is an admirable operator, operates with scrupulous care, according to the rules of the most severe antiseptics. His statistics are most favorable and the numerous successes therein related reflect the highest credit on him. Dr. Tillaux is still only an agrégé of the Faculty, although it was supposed that when he had published his treatise on topographical anatomy some years ago he would have been appointed professor. In this, however, he and his friends were disappointed and the reason alleged was that Dr. Tillaux, although an excellent surgeon, is not sufficiently scientific to occupy the position of Professor. His work was considered defective in some respects, it was too simplified, and was illustrated with plates of a correctness rather too approximative. The work, however, is looked upon as a classical one, and each student possesses a copy.

DR. VIDAL.

Dr. Vidal is celebrated as a specialist for skin diseases, and it was at the Hôpital Saint Louis that he acquired the well-earned reputation. He is a conscientious practitioner and although there is a great tax on his time, he never delegates his hospital work to others but attends to the patients as if he had nothing else to do. He is little over sixty years of age, but since arriving at that age, he has abstained from publishing much as he thinks that this must be left to the younger generation. The works he has published must not be forgotten, among them may be cited his inaugural thesis on chronic rheumatism, on exfoliative dermatitis and lepra nostras, without counting excellent articles in the "Dictionnaire Encyclopédique" of Dr. Décambre, and other important communications made to the different societies to which he belongs.

ELECTRICITY FOR RHEUMATISM.

BOSTON, October 9, 1890.

MR. EDITOR: — In Dr. Prince's instructive article on "The Practical Uses of Electricity," in your issue of October 2, 1890, some skepticism was expressed regarding the reduction of rheumatic swelling under this agent, patients' statements on this point seeming to him to result largely from imagination. I should like to take this opportunity of stating that I have verified this phenomenon by personal observation in several cases where I have made local electrical applications for monarticular rheumatism of long standing.

The most marked case coming under my observation I have already published in the JOURNAL of August 2, 1888 ("Katalytic Action of Electricity: Its Practical Value in Rheumatic Affections"). In this case, treated in conjunction with Dr. W. J. Otis, the wrist had remained stiff, swollen, red and painful on motion for two months after an attack of rheumatic fever. There was wasting of the extensor muscles of the forearm, the grasp was nil. The effect of the daily application of a mild galvanic current (combined with faradism of the affected muscles) was perceptible from the first. The swelling lessened and flexibility increased after each application. At the end of the third week the wrist measured one-quarter of an inch less, and the forearm three-eighths of an inch more, while the grasp with the dynamometer measured fifteen. At the end of the fifth week no swelling was perceptible, all movements of the wrist and fingers were free, excepting a very slight restriction in extension. The grasp was good.

In a case of swelling of the ankles reported in the same paper, the swelling could be seen to lessen, both by the patient and myself, and the movements of the feet, too, became more free during each application. The swelling between the treatments became gradually less marked until the normal condition was restored in about ten weeks.

Since this publication I have seen other similar cases, and have become convinced that properly selected cases of subacute rheumatism offer a most favorable field for definite therapeutic results from this much abused but still useful agent.

Yours truly,
GEORGE L. WALTON.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 11, 1890.

W. M. BRAISTED, Detroit, Mich., appointed an assistant surgeon in the United States Navy.

P. S. WALKE, medical director, detached from temporary duty as commanding Medical Examining Board.

H. E. AMES, passed assistant surgeon, detached from temporary duty as member of Medical Examining Board.

C. G. HERRON, surgeon, ordered to Naval Hospital, New York.

R. C. PERSONS, surgeon, detached from Naval Hospital, New York, and wait orders.

H. B. SCOTT, passed assistant surgeon, ordered before the Retiring Board.

A. F. PRICE, surgeon, detached from Naval Dispensary, Washington, D. C.

FRAZER ANDERSON, passed assistant surgeon, ordered to Naval Dispensary, Washington, D. C.

C. H. HARRIS, medical director, ordered to hold himself in readiness for duty to U. S. S. "San Francisco."

W. C. BRAISTED, assistant surgeon, ordered to Army and Naval Hospital, Hot Springs.

L. W. SPEARLING, assistant surgeon, ordered to hold himself in readiness for orders to the U. S. S. "San Francisco."

C. A. SIEGFRIED, surgeon, ordered to the U. S. Training Ship "New Hampshire."

N. P. BLACKWOOD, assistant surgeon, detached from duty in Bureau of Medicine and Surgery, and granted leave of absence.

L. H. STONE, assistant surgeon, detached from the U. S. S. "New Hampshire," and wait orders.

JNO. C. EDELMAN, passed assistant surgeon, ordered to hold himself in readiness for duty to the U. S. S. "San Francisco."

J. E. GARDNER, passed assistant surgeon, detached from the "Albatross," and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM SEPTEMBER 8, 1890, TO OCTOBER 4, 1890.

HUTTON, W. H. H., surgeon. Detailed as chairman Board of Examiners. October 2, 1890.

LONG, W. H., surgeon. Detailed as member Board of Examiners. October 2, 1890.

PURVANCE, GEO., surgeon. Granted leave of absence for thirty days. September 10, 1890.

GODFREY, JOHN, surgeon. Detailed as recorder Board of Examiners. October 2, 1890.

WHEELER, W. A., passed assistant surgeon. To proceed to New Orleans, La., for temporary duty. October 3, 1890.

BANKS, C. E., passed assistant surgeon. Granted leave of absence for twenty days. October 3, 1890.

AMES, H. P. M., passed assistant surgeon. To proceed to New Orleans, La., for duty. September 13, 1890.

PETTUS, W. J., passed assistant surgeon. To proceed to Vineyard Haven, Mass., for temporary duty. October 1, 1890.

HUSSEY, S. H., assistant surgeon. To proceed to New Orleans, La., for temporary duty. September 19, 1890. To proceed to Norfolk, Va., for temporary duty. October 3, 1890.

WERTENBAKER, C. F., assistant surgeon. Granted leave of absence for twenty days. September 12, 1890.

PERRY, J. C., assistant surgeon. Upon expiration of leave to rejoin station at Mobile, Ala. September 29, 1890.

YOUNG, G. B., assistant surgeon. To proceed to Memphis, Tenn., for temporary duty. September 13, 1890. To rejoin station, St. Louis, Mo., when relieved at Memphis, Tenn. October 3, 1890.

SOCIETY NOTICES.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION will hold its annual meeting in Atlanta, Ga., November 11, 12 and 13, 1890. George J. Engelmann, M.D., St. Louis, President; W. E. B. Davis, M.D., Birmingham, Ala., Secretary; Virgil O. Hardon, M.D., Atlanta, Ga., Chairman of the Committee of Arrangements.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, October 22, 1890, at 7.45 o'clock.

Business: Election of chairman for the ensuing year.

Dr. Douglas Graham will present a paper upon "Personal Experiences with Masseurs Abroad." Drs. G. L. Walton, C. P. Putnam and G. C. Garber are expected to take part in the discussion. Dr. Irving Fisher will make a preliminary report, on behalf of the committee appointed at the last meeting, upon "The Need of Hospital Accommodation for Patients with Syphilis." ALBERT N. BLODGETT, M.D., Sec'y, 138 Boylston St.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 4, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	650	279	17.40	14.85	2.55	10.50	1.20
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,277	—	—	—	—	—	—	—
Brooklyn	852,467	320	149	17.67	11.78	3.41	6.51	1.55
St. Louis	550,000	246	57	7.36	7.82	1.84	2.30	1.84
Baltimore	500,343	167	50	17.40	12.60	1.80	4.80	6.60
Boston	446,507	166	56	15.50	25.84	3.61	7.22	3.61
Cincinnati	325,000	105	49	13.30	11.40	5.70	2.85	4.75
New Orleans	290,000	101	24	12.87	13.86	1.98	5.94	.99
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	97	33	19.57	14.42	2.06	7.21	7.21
Nashville	68,513	32	14	25.00	9.39	—	12.50	6.25
Charleston	60,145	41	16	9.76	4.88	—	2.44	2.44
Portland	42,000	13	3	15.38	7.69	—	15.38	—
Worcester	84,836	16	5	31.25	6.25	6.25	12.50	6.25
Lowell	77,905	30	13	26.00	20.00	6.66	13.33	—
Fall River	74,351	31	14	38.76	16.15	6.46	19.38	12.92
Cambridge	69,837	17	6	17.64	11.76	—	17.64	—
Lynn	55,584	11	5	36.36	—	9.09	18.18	9.09
Lawrence	44,259	20	7	20.00	10.00	10.00	10.00	—
Springfield	44,164	9	4	22.22	44.44	11.11	11.11	—
New Bedford	37,003	9	2	22.22	—	—	22.22	—
Saverville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	13	7	15.38	—	—	7.65	7.69
Chelsea	27,850	5	3	—	40.00	—	—	—
Haverhill	27,322	20	13	35.00	10.00	—	30.00	5.00
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	9	0	22.22	—	—	11.11	—
Newton	24,375	4	2	25.00	—	—	25.00	—
Malden	22,984	7	2	14.28	42.84	14.28	—	—
Fitchburg	22,007	9	5	11.11	—	—	11.11	—
Gloucester	21,262	5	0	—	—	—	—	—
Waltham	18,522	5	3	40.00	—	—	40.00	—
Pittsfield	17,253	2	0	50.00	50.00	—	—	50.00
Quincy	16,111	2	2	50.00	—	—	—	50.00
Northampton	14,981	—	—	—	—	—	—	—
Newburyport	13,914	5	0	—	40.00	—	—	—
Woburn	13,491	—	—	—	—	—	—	—

Deaths reported 2,167; under five years of age 833: principal infections diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 369, consumption 274, acute lung diseases 182, diarrhoeal diseases 173, diphtheria and croup 61, typhoid fever 59, whooping-cough 24, marshy fever 17, cerebro-spinal meningitis 10, scarlet fever 7, miasmes 4, erysipelas 4.

From whooping-cough, Brooklyn 9, New York 7, Baltimore 5, Boston 2, Worcester 1 and Washington 1 each. From malarial fever, Brooklyn 5, New York 4, New Orleans 3, Nashville and Charleston 2 each, Baltimore 1. From cerebro-spinal meningitis, New York 4, Brooklyn and Washington 2 each, Worcester 1. From scarlet fever, St. Louis 3, Brooklyn 2, New York and Baltimore 1 each. From measles, New York 3, Brooklyn 1. From erysipelas, New York and Brooklyn 2 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,359, for the week ending September 27th, the death-rate was 20.0. Deaths reported 3,738: acute diseases of the respiratory organs (London) 222, diarrhoea 386, scarlet fever 68, whooping-cough 63, measles 62, diphtheria 58, fever 58, small-pox (London) 1.

The death-rates ranged from 11.4 in Derby to 32.6 in Manchester, Birmingham 17.2, Bradford 20.8, Huddersfield 17.7, Hull 20.7, Leeds 21.9, Leicester 16.6, Liverpool 23.8, London 17.2, Newcastle-on-Tyne 25.6, Nottingham 14.3, Portsmouth 21.3, Sheffield 20.8, Sunderland 25.2.

In Edinburgh 16.7, Glasgow 22.2, Dublin 20.8.

The meteorological record for the week ending Oct. 4, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall. Hrs. & Min. Amount in inches.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	
Saturday, Oct. 4, 1890.												
Sunday...	30.31	50.0	55.0	46.0	71	81	76.0	N.	N.E.	8	11	O.
Monday...	30.38	51.0	57.0	46.0	81	89	75.0	E.	E.	18	4	C.
Tuesday...	30.29	50.0	73.0	44.0	74	70	72.0	N.	W.	11	7	C.
Wednesday...	30.30	60.0	65.0	56.0	57	78	67.0	N.	S.E.	4	12	C.
Thursday...	30.28	66.0	77.0	54.0	53	62	58.0	S.W.	S.W.	10	10	C.
Friday...	30.10	62.0	70.0	57.0	77	97	87.0	S.W.	S.W.	4	7	O.
Saturday, 4	29.78	64.0	68.0	59.0	97	91	97.0	N.	S.W.	6	11	O.
Mean for Week.	30.19	66.0	52.0			76.0						

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 3, 1890, TO OCTOBER 10, 1890.

By direction of the Secretary of War, Captain JAS. A. FINLEY, assistant surgeon, is relieved from duty at Fort Totten, N. Dak., and will report in person to the commanding officer, Jefferson Barracks, Mo., for duty at that station, relieving Captain Wm. D. CROSBY, assistant surgeon. Captain Crosby, on being relieved by Captain Finley, will report in person to the commanding officer, Fort Pembina, N. Dak., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

Lieutenant-Colonel CHAS. C. BYRNE, surgeon, is relieved from duty as attending surgeon at the Soldiers' Home, near this city, and will report in person to the commanding officer, Fort Sam Houston, Tex., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

Leave of absence for one month is granted Lieutenant-Colonel JOSEPH C. BAILY, assistant medical purveyor, medical director of the department. S. O. 86, Par. 3, Department of Texas, October 3, 1890.

By direction of the Secretary of War, the leave of absence granted First Lieutenant LEONARD WOOD, assistant surgeon, in Special Orders No. 74, August 30, 1890, Department of California, is extended one month. S. O. 232, Par. 7, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Major HENRY M. CRONKHITE, surgeon, is relieved from duty at Fort Lewis, Col., and will report in person to the commanding officer, Fort Trumbull, Conn., for duty at that station, relieving Captain ROBERT J. GIBSON, assistant surgeon. Captain Gibson, on being relieved from duty by Major Cronkhite, will report in person to the commanding officer, Fort Sam Houston, Tex., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Major WILLIAM H. GARDNER, surgeon, is relieved from duty at Washington Barracks, D. C., to take effect on the arrival of Major JOSEPH K. CORSON, surgeon, and will report in person to the commanding officer, Angel Island, Cal., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Captain WM. C. BODDEN, assistant surgeon, is relieved from duty at Fort Sam Houston, Tex., upon the arrival of Lieutenant-Colonel C. C. BYRNE, surgeon, and will report in person to the commanding officer, Fort Davis, Tex., for duty at that station, relieving Captain PETER R. EGAN, assistant surgeon. Captain Egan, on being relieved by Captain Bodden, will report in person to the commanding officer, Fort Warren, Mass., for duty at that station, relieving Captain GEO. McCREERY, assistant surgeon. Captain McCreeery, on being relieved by Captain Egan, will report in person to the commanding officer, Fort Clark, Tex., for duty at that station, relieving Captain CHAS. M. GANDY, assistant surgeon. Captain Gandy, on being relieved by Captain McCreeery, will report in person to the commanding officer, Fort Shaw, Mont., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Major CURTIS E. MUNN, surgeon, is relieved from duty at Angel Island, Cal., and will report in person to the commanding officer, Fort Monroe, Va., for duty at that station, relieving Major JOHN BROOKE, surgeon. Major Brooke, on being relieved by Major Munn, will report in person to the commanding officer, Fort Leavenworth, Kan., for duty at that station, relieving Major ALFRED A. WOODHULL, surgeon. Major Woodhull, on being relieved by Major Brooke, will report in person to the commanding officer, Fort Sherman, Idaho, for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, the following changes in the stations and duties of officers of the medical department are ordered: Major GEO. M. STERNBERG, surgeon, is relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., and as a member of the Army Medical Board, appointed to meet in New York City, N. Y., and will repair to San Francisco, Cal., and take charge of the Medical Surveying Depot at that place, as acting assistant medical purveyor, relieving Colonel B. J. D. IRWIN, surgeon. Colonel Irwin, on being thus relieved, will report in person to the commanding general, Department of the Columbia, and assignment to duty as medical director of that department and assistant surgeon, Vancouver Barracks, Washington, relieving Major WILLIAM E. WATERS, surgeon, now post surgeon, and temporarily in charge of the medical director's office. Major Waters, on being thus relieved, will report in person to the commanding officer, Fort Custer, Mont., for duty at that station. S. O. 232, Par. 8, A. G. O., October 3, 1890.

By direction of the Secretary of War, Major VAN BUREN HUBBARD, surgeon, is relieved from duty at Columbus Barracks, O., and will report in person to the commanding officer, Fort Spokane, Wash., for duty at that station, relieving Captain

HENRY S. TURRILL, assistant surgeon. Captain Turrill, on being relieved by Major Hubbard, will report in person to the commanding officer, Madison Barracks, N. Y., for duty at that station, relieving Major JOHN D. HALL, surgeon. Major Hall, on being relieved by Captain Turrill, will report in person to the commanding officer, Fort Canby, Wash., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, First Lieutenant ALLEN M. SMITH, assistant surgeon, is relieved from duty at Fort Snelling, Minn., and will report in person to the commanding officer, Fort Verde, Ariz., for duty at that station, relieving Assistant Surgeon PAUL SHILLOCK. Lieutenant Shillock, upon being relieved, will report in person to the commanding officer, Fort Custer, Mont., for duty at that station, relieving Captain WM. R. HALL, assistant surgeon. Captain Hall, upon being relieved by Lieutenant Shillock, will report in person to the commanding officer, Fort Schuyler, N. Y., for duty at that station, relieving Captain NORTON STRONG, assistant surgeon. Captain Strong, on being relieved by Captain Hall, will report in person to the commanding officer at Fort Meade, S. Dak., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Captain C. N. BERKELEY MACAULEY, assistant surgeon, is relieved from duty at Fort Supply, I. T., and will report in person to the commanding officer, Fort Lewis, Col., for duty at that station. S. O. 233, Par. 2, A. G. O., Washington, D. C., October 4, 1890.

By direction of the Secretary of War, Captain RUDOLPH G. ENERT, assistant surgeon, is relieved from duty at Angel Island, Cal., to take effect upon the arrival, at that post, of Major WM. GARDNER, surgeon, and will then proceed to Vancouver Barracks, Wash., and report for duty to the commanding officer of that post for duty. S. O. 232, Par. 15, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Captain ROBERT B. BROWN, assistant surgeon, will proceed from Fort Hamilton, N. Y., to Mount Vernon Barracks, Ala., and report in person to the commanding officer of that post for temporary duty, relieving Captain JOHN J. COCHMAN, assistant surgeon, who will return to his proper station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, leave of absence for three months is granted Captain ROBERT J. GIBSON, assistant surgeon, to take effect on being relieved from duty at Fort Trumbull, Conn., by Major HENRY M. CRONKHITE, surgeon. S. O. 232, Par. 12, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, Captain WALTER REED, assistant surgeon, is relieved from duty at Mount Vernon Barracks, Ala., and assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md. S. O. 233, Par. 7, A. G. O., Washington, D. C., October 4, 1890.

By direction of the Secretary of War, Captain ARTHUR W. TAYLOR, assistant surgeon, is relieved from duty at Fort Winnebago, New Mex., to take effect on the expiration of his present sick leave of absence, and will report in person to the commanding officer, Fort Adams, R. I., for duty at that station, relieving Captain J. J. COCHMAN, assistant surgeon. Captain Cochran, on being relieved by Captain Taylor, will report in person to the commanding officer, Camp Eagle Pass, Tex., for duty at that station, relieving First Lieutenant PAUL CLENDENEN, assistant surgeon. Lieutenant Clendenen, on being relieved by Captain Cochran, will report in person to the commanding officer, Fort Brady, Mich., for duty at that station. S. O. 232, Par. 8, A. G. O., Washington, D. C., October 3, 1890.

PROMOTIONS.

Assistant Surgeon EDWARD R. MORRIS, September 17, 1890, to be assistant surgeon, United States army, with the rank of captain, in accordance with the act of June 23, 1874.

Lieutenant-Colonel BERNARD J. D. IRWIN, assistant medical purveyor, to be surgeon, with the rank of colonel, August 28, 1890.

Major BLENCOWE E. FRYER, surgeon, to be assistant medical purveyor, with the rank of lieutenant-colonel, August 28, 1890.

Captain STEPHEN G. COWDRY, assistant surgeon, to be surgeon, with the rank of major, August 28, 1890.

APPOINTMENT.

Colonel EDWARD P. VOLLMER, surgeon, to be chief medical purveyor, with the rank of colonel, August 28, 1890.

BOOKS AND PAMPHLETS RECEIVED.

The Principles of Psychology. By William James, Professor of Psychology in Harvard University. In two volumes. New York: Henry Holt & Co. 1890.

Transactions of the American Surgical Association. Vol. VIII. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: P. Blakiston, Son & Co. 1890.

Original Articles.

MALIGNANT STRICTURE OF THE OESOPHAGUS. ITS TREATMENT BY SYMONDS'S METHOD OF PERMANENT TUBAGE. WITH CASES.¹

BY S. J. MIXTER, M.D.,

Surgeon to Out-Patients, Massachusetts General Hospital; Demonstrator of Anatomy, Harvard Medical School.

AMONG the recent triumphs of surgery, the operations for the relief of stenosis of the alimentary canal, occupy a prominent position. Excision and intestinal anastomosis have been added to colotomy or other forms of operation for the formation of an artificial anus, and excision of the rectum is a well-recognized operation.

The stomach and intestine can now be reached by the operator, and by one of several different methods its contents can be given passage downwards and outwards. The oesophagus, however, in the greater part of its course, is beyond the reach of the knife. It is true that by means of the electric light and suitable apparatus, we may view its interior as easily as that of the urethra, but here there is no chance for anastomosis, and the most that we can expect is to keep the narrowing canal from becoming totally closed, in which case a gastrostomy is the only means of averting starvation. This has generally been accomplished by the frequent passage of the probang or oesophageal bougie.

This method of procedure is sufficient in many cases to prevent a closure, and the patient dies of the progress of the disease but not from starvation. In other cases after this method of treatment has been followed for a considerable time, it is found impossible to prevent further contraction, the passage of the probang gives the patient great pain, and is often followed by profuse haemorrhage, due to the laceration of the malignant granulations. Not infrequently, also, the probang finds its way, not along the canal, but into the new growth and a false passage or pocket results. In such a case the subsequent passage of the instrument becomes almost, if not quite, an impossibility.

The division or cutting of a malignant stricture of the oesophagus, does not seem a rational procedure. In a few cases a patient presents himself with total obstruction, and in that case, of course, gastrostomy with its dangers and discomforts and many complications in its after-treatment, the only resource of the surgeon. A permanent opening in the stomach is, as a rule, more difficult to manage than an opening into the intestine (artificial anus).

If now the patient is seen presenting the difficulties above spoken of in the introduction of the probang, but whose stricture allows the passage of a flexible instrument, is there a way by which the oesophagus can be kept open, and the patient relieved from the frequent use of the probang with its dangers and pain?

It is in this class of cases that intubation of the oesophagus is of the greatest use. The instrument used is like a flexible woven catheter, about six inches in length, the top expanding like a funnel, to a diameter of about half an inch, and the tube itself ranging from No. 6 to No. 20 English. At the top of the funnel is fastened a strong silk cord. A tube of a suitable size having been selected, it is dipped in warm

water to make it more flexible, lubricated with glycerine or vaseline, and by means of a flexible stilette or a probang, passed into the oesophagus and through the stricture until its further passage is stopped by the expansion in the tube. The stilette is then withdrawn, and the patient finds, to his surprise, that he can swallow liquids with perfect ease.

Permanent tubage of the oesophagus has been used by different surgeons for the relief of stricture, but the tube used, being a long one, was passed through the nose or mouth, and being left in place was most uncomfortable and caused ulceration at different points where there was pressure, as behind the cricoid. To Symonds is due the credit of inventing the short tube described above, which entirely changes the whole process of treatment, and it will, I feel sure, be considered as the greatest advance in oesophageal surgery, and will do more to relieve suffering in a great number of cases than any operation yet performed on this part of the alimentary canal.

Having had several patients with malignant stricture under my care, and finding the treatment by probang or daily introduction of the stomach tube unsatisfactory, I was influenced by Symonds's articles in the *British Medical Journal*, for 1889, to send to England for tubes, as they could not be procured in this country. Soon after they arrived Dr. Warren kindly placed under my charge a patient at the Massachusetts General Hospital, with advanced malignant disease of the oesophagus, and a history of having swallowed not even liquids for days. A No. 20 F. bougie was with difficulty passed, and on its withdrawal a No. 9 E. tube was passed through the stricture which was situated near the lower end of the oesophagus. The patient was then enabled to swallow liquids with ease. Before food was taken into the stomach he said that he had no sensation of hunger although almost no food had been taken for over a week and emaciation and exhaustion were extreme. As soon, however, as the milk and brandy had revived him, his appetite returned and for the next few days he assured me that he was constantly hungry, though milk, eggs and all kinds of liquid food were constantly supplied him. For two weeks he gained a pound a day. When he left the Hospital after wearing the tube a month, he could swallow liquids and soft solids with ease. This patient was lost sight of.

CASE II was also a patient placed under my care by Dr. Warren. A woman with a cicatrical contraction from swallowing caustic potash. The passage of any instrument was very difficult and painful. A tube was passed through the stricture giving great relief for a time, but one morning it was discovered that the string which was tied behind the ear was very taut, and on trying to withdraw the tube, it was evident that it had passed beyond the stricture and it was impossible to withdraw it. For the next few days various methods were tried for recovering the tube and finally, as all attempts proved futile, the cord was cut as low as possible, and the further progress of the tube left to nature. The patient left the hospital in three weeks, the stricture having been dilated to a considerable extent. The tube was passed by the rectum eleven weeks later without having caused the slightest disturbance.

CASE III. A patient kindly referred to me by Dr. Homans at the Massachusetts General Hospital, was an old man with probable malignant stricture of six

¹ Read before the Boston Society for Medical Improvement, May 26, 1890.

months' standing. He had been unable to swallow even liquids for several days. The smallest probang was passed with great difficulty. A small tube was introduced, and in two days a larger one was passed. This was worn for about a week. The patient gained flesh and strength rapidly, and soon left the Hospital. Since that time he has been under my care, coming from his home about thirty miles away, once every ten or fourteen days, as a rule, but sometimes wearing a tube three weeks without changing. About three months after the first intubation, while he was wearing the largest-sized tube, he complained one day of some "sore throat" which I thought might be due to the irritation of the string in the pharynx, and I removed it, intending to leave it out for a few days. Two days after he appeared at my office saying that he had been unable to swallow even liquids for twenty-four hours. A very small tube was with difficulty introduced and this has been replaced at the usual intervals by larger tubes, and now he is quite comfortable, though beginning to show the usual signs of malignant disease.

CASE IV. An old man with probable malignant disease with the usual symptoms, and complete obstruction for some days. A tube was introduced and worn for some days, when a piece of food plugged it and the patient took it out, and for some days swallowed easily. Then the stricture closed again and the tube was replaced. This patient has now been under my care for five months, wearing the tube almost constantly without discomfort.

CASE V. An old man who had been in Dr. Beach's wards in the Massachusetts General Hospital for treatment of almost impassable stricture of oesophagus. A tube was introduced and the patient returned to his home six hundred miles distant. In about three months he appeared at the Out-Patient Department, bringing the tube which had been taken out and cleaned several times but which had finally become worn out and unfit for use. A fresh tube was introduced and in a few days changed for a larger one (No. 15 E.). He was given two fresh ones and returned to his home. He assured me that he considered that a journey of twelve hundred miles was not a high price to pay for the immense relief given by the intubation.

The tube can be left in place for a considerable time, though about once in ten days it is well to clean and replace it. In several instances I have left it three weeks. Of the accidents that may happen, one, the passage of the tube into the stomach has been mentioned. In Symonds's articles this accident is mentioned and no ill effects are observed.

In one case the string was worn through by the patient's teeth, the thread being swallowed. The tube was easily recovered by means of a flexible oesophageal forceps.

In one case (IV) it was almost impossible to pass a probang or bougie of the size of the tube first removed, or to replace the tube itself, perhaps owing to a pocket beside the stricture. A small urethral bougie could, however, always be passed. An instrument to serve as a guide was accordingly made of a small bougie-tip (about two inches long), joined smoothly to whalebone of the same size, and this having been introduced through the stricture, a tube open at the end could be passed down over it and when in place the guide was withdrawn. I find that in the majority of cases the tube can best be passed in this manner.

The thread can be most satisfactorily and securely fastened by tying it to a lock of the patient's hair in front of the ear, and securing the knot with collodion.

From the few cases I have had, I feel thoroughly convinced that this method of treatment is of the greatest value in suitable cases. Even in cases where it is not necessary to continue its use for a great length of time, as in cases of traumatic stricture, where the passage is small and tortuous, the introduction of the tube for a few days dilates the stricture and renders the subsequent passage of the necessary instruments much easier.

OBSTETRICAL WORK IN A COTTAGE HOSPITAL.¹

BY HENRY COLT, M.D., PITTSFIELD, MASS.

IT is hardly necessary at this day, to dwell long upon the advantage a cottage hospital is to a community, for in England where the idea had its inception thirty years ago, the good work which such institutions accomplish, is fully appreciated, and the results published, and in this country medical men have been quick to praise the usefulness of small well-managed hospitals.

A brief review of the advantages which English and American writers have brought out as belonging especially to the cottage hospital, may be of interest. First, that in them the mortality is less than in larger ones; second, that they are better adapted for the treatment of acute diseases; third, that diseases can be classified more easily; fourth, that they are homelike; and fifth, they are not costly.

It would be foreign to the subject of this paper to enter into detail as to the reasons that have led various writers to draw these conclusions, but that such conclusions are true, can hardly be disputed.

The management of the cottage hospital with which I am most familiar, is the House of Mercy in Pittsfield. It claims the distinction of being the first of this class to be established in New England, having been incorporated in 1874, and from my connection with it, a period of nine years, I can safely say that the results seem to bear out all that has been claimed for institutions of a similar character. An accurate description of the building was published in the "Ninth Annual Report of the State Board of Health," by Dr. J. F. A. Adams, of Pittsfield. As the house is practically the same now as in 1878, when the article referred to was written, I will quote Dr. Adams's description of the building. It stands upon "a triangular lot of land at the intersection of three streets, at the northern limit of the village. . . . The lot measures three-quarters of an acre, and the soil is a coarse, dry gravel. Upon this they have erected a hospital for thirteen beds, capable of holding more if necessary. It is a two-story frame building; or more correctly two separate buildings connected by a short corridor. . . . There are no general wards, it having been decided to have single-bedded rooms only. . . . Every room in this building has an open fireplace connected with a large flue in one of the four massive chimneys." The rooms for patients vary in size from 9×12 to 14×16. As I have said, the building is practically the same now as in 1878, but in 1888 the Bishop Memorial Training-school for Nurses, was

¹ Read at the annual meeting of the Massachusetts Medical Society, June, 1890.

built, connected with the House of Mercy by a corridor, and the transference to the new building of more conveniently arranged doctors', matrons' and managers' rooms, the nurses' quarters being on the third floor, left in the old building several new rooms for patients. There are also eight rooms in the new building for patients, making the total capacity twenty-six or thirty-eight beds. The heating of the rooms is by steam, direct radiation, and no special system of ventilation other than open fireplaces.

The school for nurses was established in 1885, and has been an unqualified success, the demand for nurses far exceeding the supply.

The character of cases does not differ materially from those treated at any hospital. Persons suffering from contagious diseases are, however, not admitted. In medical cases we see both the acute and chronic forms of pulmonary, cardiac and renal troubles, the different forms of continued fevers, from severe typhoid to a mild febricula. In surgical work there have been minor and major operations, from amputation of the thigh to an amputation of a toe, several laparotomies and work that is distinctively gynecological. I have briefly given a description of the Pittsfield Cottage Hospital, thinking that in so doing, the work in obstetrics can be better understood.

In looking through some of the literature upon cottage hospitals I was struck by the fact that no mention was made of the advantages of such institutions for the carrying out of obstetrical work. There is much space given to the success in treating both medical and surgical cases, and the diseases incident to childhood, but as to obstetrical cases I have found no record. In answer to a letter of inquiry sent to the superintendents of hospitals situated in twelve of the larger towns and cities of this State, excluding Boston, I found that, except in three instances, obstetrical cases either were not received, or that owing to a lack of proper room arrangement, they could not be taken care of. In two instances they received such cases, but they were placed in buildings separate from the hospital. In Pittsfield we receive such cases, but have no separate ward for their treatment. Possibly the arrangement of having a single room for each patient makes this course an easy one for us to carry out, and it is of course probable in the other small hospitals throughout the State, that the plan of the buildings necessarily prohibits the admittance of an obstetrical case, but the work with us has been carried on so easily that I learned with some surprise that such cases were not more generally received.

While the number of this class of patients has not been large, yet the fact that we are among the few who take them in, may tend to emphasize the results that we have attained. From 1877 to 1890 there have been thirty-four cases admitted. Of these nineteen were multiparae and fifteen primiparae. In two instances only was it necessary to use forceps; the patients were both primiparae, and in both cases the children were still born. Out of this number (thirty-four) there was but one abnormal presentation, that being a face, and there has been but one case of twins. This rather meagre presentation of statistics, cannot, of course, excite much interest or comment, but I will in addition make the statement that in this number we have not seen a case of puerperal septicemia or had a patient die after her confinement. There has been an occasional rise of temperature, but in no

instance could such a condition be called septicemic.

Dr. W. L. Richardson in an article in the *Boston Medical and Surgical Journal*, for 1887 on "The Use of Antiseptics in Obstetrical Practice," says, "with very few exceptions all cases in which the temperature did not exceed 100° are classified as normal; while those whose temperature rose between 100° and 102° are considered as doubtful; all others being classed as dangerous. The few exceptions made in this classification are in those cases where the temperature may have exceeded these arbitrarily selected limits, but where such rise was only transitory and due, as shown by the clinical record, to some clearly defined cause such, for example, as mental emotion, indiscretion in diet, etc."

Such a statement holds true in the cases with us, and it is quite rare to have a temperature stay at or reach 100°. Taking into consideration the fact that there are often in the hospital a variety of surgical and medical cases in all stages of convalescence, or the reverse, it is with pardonable pride we can point to such a record. The means adopted to secure this result have been to make the environment of the patient as aseptic as possible, especially has this been the case in the last few years, following out the generally accepted antiseptic treatment. I will however state that *every* precaution is not used to secure asepsis, inasmuch as certain steps are not taken, which are insisted upon, with good reason too, by the physicians in charge of a strictly lying-in hospital, but at all it seems to us, every reasonable precaution is taken. If a confinement case is to occupy a room in which there has been a medical or surgical case with a rise of temperature, the room is fumigated, the walls washed with carbolic solution, the pillows and mattress mads over, and clean fresh bedding provided. During the progress of the labor, a carbolic spray is often used about the room. The nurse in attendance is not allowed to go into any other room where there is a rise of temperature. If there has been in the room a case with no rise of temperature, no special precautions are taken other than making the room perfectly clean. The physicians in attendance have not, I believe, ordered a bath for the patient before the commencement of labor, and in only one or two instances has an antiseptic vaginal douche been given either before or after labor. The careful cleansing of the hands is, however, strictly adhered to, together with the use of a disinfecting fluid, either a bichloride or carbolic solution, before making any examination. If any instruments are used, they are first thoroughly carbonized.

Since the article of Dr. Richardson's appeared, which before was referred to, the antiseptic pad which he recommended, has been constantly used. The nurse in attendance is carefully instructed to use every precaution to insure asepsis, and such instructions have been most faithfully carried out. While realizing the dangerous element a case of puerperal septicemia would be, both as to carrying on successful obstetrical and surgical work, yet we believe that in using the care we do, the good results in the past can be secured for the future.

The class of patients we receive is not by any means limited to those, who from lack of money, are forced to depend upon charitable institutions. Many women well able to pay a physician at their homes,

voluntarily choose to come to the House of Mercy for their confinement, realizing that skilful and intelligent nurses will be in attendance, and that they run less risk from septic disturbances than in their own homes. While the managers of the House of Mercy do not propose that it shall be considered in any way a lying-in hospital, yet they are ready and willing to receive a certain number of cases every year, and the results thus far secured bear out the idea of its being a safe, wise, and above all, a charitable thing to do.

I would, therefore, wish to impress upon those of the profession who may be connected with these smaller institutions that obstetrical work in a cottage hospital can be well carried on, and I trust that the results which I have placed before you, may induce you to make an attempt to secure to not only poor and friendless women a desirable place for their confinement, but to those well able to pay, a temporary home, which, in the majority of cases, is better adapted to their needs than their own.

A HYDROPHOBIA SCARE.

BY CLARENCE W. SPRING, M.D., FITCHBURG, MASS.

SINCE the time when the case of the Newark children was so extensively discussed in the American press, and proved so rich a prize for enterprising journalists, imaginative reporters, and dime museum managers, the subject of hydrophobia has been more than usually prominent before the public mind, and by the press has received a varied treatment. But since the opening of the Pasteur Institute in New York in February of the present year, the discussion has received a new impetus somewhat similar to what it received in France immediately following the opening of the Pasteur Institute in Paris, and the interest in the disease as it occurs in our midst may be fairly said to be on the increase.

During the last few months scarcely a day has passed without the chronicle in the daily press of one or more cases of hydrophobia to man and animals; and a large number of communities have had what may be called a "hydrophobic scare," with or without serious results.

It is the object of the writer to briefly state the sequence of events which occurred in Fitchburg during the past summer as a contribution to the study of this dread disease, and to offer a few remarks on the attitude of the profession towards its treatment.

On May 26th a lad, aged twelve, presented himself for treatment, stating that he had just been bitten by a dog which jumped upon him as he was on the street. On examination a small wound through the true skin was found on the left shoulder, and in the arm-pit and neighboring region of the scapula were several abrasions of the skin of a more or less superficial nature. The parts were well protected by clothing, though the wounds were deep enough to bleed freely. They were promptly cauterized and in about ten days were healed.

The reason for taking an unusual interest in the case arose from the fact that the dog was presumed, by his actions, and the fact that he had bitten several other dogs, to be mad. The dog was accordingly caught and tied up; but, as usually happens in such cases, the subsequent history of the animal was cut

short by his being promptly killed. His history previous to his death was, in brief, that, some two weeks before these events happened, he was bitten by a stray hound which ran about in the city for a time, and which, after biting a number of other dogs, disappeared. It was not a dog which was licensed, or which could be farther traced. Since that time little reason had existed to suspect any trouble till he began to show a changed disposition, a cross nature, and a tendency to bite people and dogs; and the culmination was reached in his attack upon the boy.

An effort was made to determine whether rabies could be diagnosed more definitely than was possible by the clinical history, which, in itself, lacked much of being complete. An autopsy was accordingly made, but with the result of little save negative evidence, though the brain and medulla and parts of the cord were carefully examined. A further attempt was made to prove the diagnosis by a few inoculation experiments, which were carried out with kittens. Two young kittens, six weeks old, were inoculated with a fresh solution of the medulla under the skin in the region of the abdomen. They were kept under close observation for some seventy days, but the results were entirely negative, and they were killed at the end of that time and nothing abnormal found on examination. The experiments were made as carefully as possible, though of necessity lacking in the technique deemed essential by the best laboratory methods.

While these investigations were going on, the boy was watched with a good deal of interest, not to say anxiety, and the dogs which had been bitten by this same animal, were kept under restraint and closely watched, particularly a brown spaniel which was bitten on the nose immediately after the boy received his wound.

Some seventeen days elapsed without any signs of trouble, when this spaniel began to develop symptoms of an interesting nature. He began to grow sulky, and showed a marked change in disposition, refused food, snapped at whatever was near him, refused his master's caresses, and showed an increasing restlessness, though not at first of a violent nature. A peculiar dragging of the hind legs when he walked soon came on, and after two days developed into a more general paralysis. The jaw dropped, could not be kept closed; abundant saliva ran from the mouth; he refused food and drink; and soon died of paralysis and exhaustion, some three days after showing the first symptoms.

These facts, of course, opened a new chapter in the history of the case, and one which gave a chance for further study.

An autopsy was made by the writer, with the assistance of a veterinary surgeon, immediately after death, and the positive points found at that examination were, in brief, as follows: The conjunctiva were injected, the right pupil fully dilated, the left normal; the membranes of lips, nose and mouth were covered with a thick sanguineous frothy fluid. The tongue was protruded and caught between the teeth. The whole membrane of the posterior fauces was covered with a brownish fluid, was deeply injected, and almost purple in color. The larynx and trachea were likewise covered with the same kind of fluid, which, under the microscope, showed an abundance of pus cells. These parts were, like the neighboring ones, deeply injected. The brain in the posterior region showed an increased

amount of blood, was, in portions of the pons and medulla, deeply injected, and small hemorrhagic spots were seen here and there. The brain, as a whole, was not edematous. The other parts of the body, all of which were carefully examined, did not show anything especially abnormal. The examination in this respect proved important, as it showed the absence of those diseases, which are said to cause symptoms similar to those of rabies — such as parasitic enteritis, gastro enteritis from poison, and other conditions peculiar to animals.

In view of these facts, namely, the history of the case, the symptoms observed during life, the rapidly fatal result from an intensely acute nervous disease, and the conditions found after death, the probable diagnosis of rabies was made. Attempts were made with the fresh solution of the medulla to carry out some inoculation experiments, but, as in the first instance, they resulted negatively.

On the basis of this diagnosis, and after a careful discussion of the matter with the father of the boy who had been bitten, the treatment by preventive inoculation, according to the method of M. Pasteur, was deemed advisable and readily assented to. Accordingly, the boy was sent to the Pasteur Institute at New York, and placed under the care of Dr. Gibier. At the same time the writer sent the full particulars of the case, and a portion of the medulla of the dog for examination. Unfortunately a solution of chloral and glycerine was used to preserve the specimen, and it was not thought possible to make any inoculation experiments with it. The case was considered by Dr. Gibier as one eminently proper for treatment, and the inoculations were at once begun. The record of the treatment I take from notes kindly sent me by Dr. Gibier. On June 16th three inoculations were made, one at 10 A. M., one at 2 P. M., and one at 6 P. M. Two injections were made each time, consisting of twelve cubic centimetres of virus. On June 17th two inoculations were given in the same way, at 2 and 6 P. M. On the 18th the same treatment was used; and on the 19th, the fourth day, a virulent liquid was used, which was increased in intensity up to the seventh day, when a very virulent liquid was used. On the eighth day no injections were used, but they were continued on the subsequent days, one each day, till the sixteenth day, when the patient was considered as sufficiently protected.

The boy stood the treatment well, and, save a slight inflammation about one of the puncture points, no accident happened during the inoculations. The boy remains to-day (109 days after his treatment ceased) sound and well.

Of course, in a comparatively small community, a case like this could not happen without attracting a great deal of attention, and naturally causing a good deal of anxiety among all classes of people. Every effort was made to give the public a true and unexaggerated account of what had happened, and to cause the city authorities to take proper measures for the further protection of animals and men; which they did only with great reluctance, and but poorly carried out during the rest of the summer. No further trouble occurred, and the "scare" was over. The importance of correctly dealing with such cases, as they happen occasionally in a community, was most strongly impressed upon the writer's mind, and led him to consider the subject anew, with reference to some of its most

practical points; particularly with reference to the new method of treatment, an interest in which was most strongly excited by a recent visit to Pasteur's laboratory in Paris, where the matter was studied at some length.

If we are to accept the treatment of M. Pasteur as one of the rational procedures of therapeutics, a faith in its efficiency must be inculcated in the minds of the profession, as upon this faith the unfortunate sufferers, to whom the fear of hydrophobia has come, rely for their advice and counsel. It is not the purpose of the writer to discuss this method of treatment, as to its scientific correctness, or to question the accuracy of the methods by which final working results have been reached. The object of preventive medicine and curative medicine is, in the main, the same; but the methods of reaching this end are widely different in their adaptation.

The uncertainty of the occurrence of a disease, is an element which necessarily enters into a discussion of the methods of preventive treatment for that disease. But, excepting the method employed as scientifically correct, the possibility of never having the disease at all, provided no treatment is used to prevent it, if that possibility is reduced to a minimum, should not detract from the presumed efficiency of the method as shown by comparative results.

This is particularly true regarding the new method of treating hydrophobia by preventive inoculations. The element of uncertainty attaches to most cases from the very start, and it is to point out the necessity of removing as much as possible of this uncertainty that I report this case with its appended remarks. A large amount of the distrust which the public has in the treatment of this disease, and even in the existence of the disease itself, lies at the door of the medical profession. The new method of treatment is, as it were, on trial; and we owe it to ourselves to do all that can be done in making tests which will prove or disprove its value as a therapeutic agent. The first step in reaching this result would be the careful selection of cases, to determine on what basis of fact they rest in order to reduce the uncertainty of diagnosis to a minimum, if not to entirely remove it. It is by the careful selection of cases as practised by Dr. Gibier, and not the haphazard subjection of every case to this treatment, that the comparative results are made of some value. A diagnosis by clinical signs alone is not trustworthy, if possible at all, and the importance of a post-mortem on every suspicious case as it occurs, together with subsequent experimentation by inoculations by those competent to make them, cannot be too strongly insisted upon. The writer believes at the present day the medical profession owes it to itself to adopt these more careful methods of studying this disease, in order that its duty to the community at large, which it is bound to protect, may be more closely defined. If cases assume a similar phase to that of the case reported, the matter of treatment becomes a highly important one. No one can for a moment doubt the attitude of those unfortunates who have been bitten by angry or rabid animals, who has once visited the clinique of M. Pasteur, and seen the throng of all nationalities and conditions of men, some hundred or more daily, pass in one by one to receive the inoculations which they hope and expect will cure them of the disease, if the poison has entered their blood, or relieve them of the fear of it if it has not. Pasteur's record for his first four years of

treatment of 53 deaths out of 7,393 persons treated, or 0.71%, as compared with the lowest estimate of the same kind of cases not treated at all (8% according to Bollinger), means something, and is at least significant, if we only limit the efficiency of the method to curing cases of so-called nervous hydrophobia or lyssophobia and not the true disease.

If we are not to support the earnest, and I believe honest endeavors of such men as Pasteur, Gibier and others, who are using this method, and if their method is to be disproved, let it be by reason of the severe tests of clinical experience, careful observations and selection of cases, and accurate experimentation by inoculation to which all may in a way contribute their share. As such a contribution the foregoing is respectfully submitted.

COLORADO AS A HEALTH RESORT.

BY E. C. ATKINS, M.D., COLORADO SPRINGS.

SINCE the subject of the climatic treatment of tubercular disease of the lungs is occupying so large a place in the mind of the profession at present, perhaps the observations and conclusions of a physician made during a year spent in Colorado for tubercular lung disease may be of interest to some of your readers; and the more so because I am led to think, from what I have seen during my stay here, that the Eastern physicians are not sufficiently well posted on the results to be obtained here in incipient cases, and that a personal observation would lead them to be more hopeful in their prognosis of such cases.

One, who is considered an authority here, says that ninety-five per cent. of all cases that come in the early stages are either cured or greatly benefited. While that statement may partake somewhat of the largeness of things in general in the West, it is safe to say that more than half, and perhaps three-fourths, of such cases do recover. This is the fact which I think the average Eastern physician does not appreciate.

The results obtained depend very largely upon the nature and extent of the lesions, and the general condition of the patient. While it is true that now and then a case, which, to all external appearances, is in the latter stages of disease, does recover, and regain a fair degree of health, it is also true that most of such cases with extensive disease are not expected to recover, but will live much longer here than in the East.

To obtain the best results patients must come in the earlier stages, and the earlier the better; before the digestion and other general functions are seriously impaired. In a case where nothing can be found by physical examination, but where a slight cough and a very scanty expectoration exist, I believe the simple presence of tubercle bacilli in the sputum should decide in favor of Colorado.

The typical case, however, for treatment here is that where sufficient hemorrhage has occurred to convince the patient that radical measures are necessary, and when the physical examination does not show extensive disease. Such cases are usually willing to come, and almost invariably do well. Haemorrhagic cases are more amenable to cure than catarrhal cases pure and simple, but next in line comes catarrhal phthisis with cough and expectoration, containing tubercle bacilli; or more correctly speaking tubercular bronchitis. Physical examination in such cases may

reveal almost nothing, no rales, perhaps slight elevation of pitch at one apex. Such a case should come out at once, and a hopeful prognosis be given, for his chances are good. Next, cases in the second stage of disease with consolidation of one or both apices, with or without hemorrhage. Such cases should be sent out, and a fair or doubtful prognosis given according as the general condition of the patient is good or poor. A patient in this condition, accompanied by night sweats, loss of flesh and strength, may improve rapidly on coming here. It is well worth trying. It is all he can do, and many such recover.

What shall be done with cases well advanced, where the prognosis is bad, is difficult to decide. Perhaps it is as well for them to stay at home. It is a question of prolonging life a few months or a year or two, with just a possible hope of improvement. The intelligent physician must decide for there are no rules to cover such cases. I would say, however, "If in doubt, come!"

Simple prostration or weakness from loss of blood by copious or repeated hemorrhage is no indication that the patient should not come, provided the disease is not extensive. Many such are brought on stretchers and do well.

The prevailing impression that coming to a high altitude is productive of fatal hemorrhage is only a "bugbear" that has grown out of a few rare instances. Now and then such a case does occur and a patient dies of severe hemorrhage induced by the change of altitude, but among the thousands that come here, such accidents are rare and usually in cases well advanced in the third stage of disease.

The whole question turns upon the physical signs more than on the present condition or strength of the patient. It must be a very sick person who cannot be brought here with the present excellent facilities for travelling.

Such being the facts, how are we to account for them? What are the essential elements at work here for the cure of tubercular disease. I believe them to be about as follows:

- (1) Dryness of air.
- (2) Elevation of from four thousand to six thousand feet.
- (3) Purity of air.

It is difficult to know which of these to place first, for all are absolutely essential. The first and second are not sufficient alone, nor are the second and third. The first and third *might* be, as is seen in cases cured in Southern California. Add to these three conditions a climate that admits of the patient being out of doors much of the time, at all seasons of the year, and you have the conditions complete for the cure of tubercular lung disease. This state of things exists in Colorado.

One who has ever lived at an elevation of eight thousand to nine thousand feet, realizes fully the effect of altitude upon the lungs; for it seems as if the air-cells were distended to their utmost, and it is fair to suppose that this is the case and that air-cells infiltrated by disease or collapsed by disuse, are forcibly distended, giving the dry and pure air a chance to do its work upon them. That this is so is shown by the casts of cells and tubules frequently coughed up while in high altitude, which is not so common in lower.

And just here lies the advantage of Colorado over Southern California. California lacks one of the ele-

ments necessary for the cure of a majority of cases, namely, elevation. Moreover, while the air of California is pure and comparatively dry, it does not compare in dryness with that of Colorado; for the reason that California is on the coast while Colorado is one thousand miles from any body of water, and between us and the ocean is a mountain range which condenses the moisture and holds it all on the other side, while on the east, north and south are the hot arid lands of Kansas, Nebraska and Indian Territory. Thus the moisture shut out on the west, and sucked up by hundreds of miles of parched plains on the east, leaves the air of Colorado so dry that one's mucous surfaces become parched and cracked until they become accustomed to the dryness. Moreover, there is, in these elevated regions, a tonic, something in the air, which though indescribable, has a most marked effect upon all who come here. Call it super-electrification or what you will, it is here, and under its influence the digestive functions are stimulated to their utmost, the appetite improves and becomes vigorous, the nervous system takes on new life, there is an exhilaration of the whole system and a general improvement of all the vital functions results. The importance of this element in cases of phthisis will be readily understood.

Nearly all of the towns of Colorado east of the range are favorable to phthisis, and it remains to select a place congenial to the tastes and habits of the patient. While there is much to be said in favor of Denver, it is generally accepted that the smaller places which are freer from smoke and dust and the impure air, which is a common objection to all large cities, are to be preferred. Colorado Springs, Manitou, Idaho Springs, and Cañon City are among the more favored resorts.

One should be under the care of a physician here as well as elsewhere to obtain the best results. Most of them have "been through the mill" themselves and their experience will be of great value. Personal experience is often too dearly bought.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

THE CEREBRAL CONVOLUTIONS.

THE morphology of the cerebral convolutions, their significance, and the cause of their appearance are some of the burning questions of the day. They were discussed at the recent Congress at Berlin, but it will be long before we get the complete record. Professor Cunningham delivered an address before the Section of Anatomy and Physiology of the British Medical Association¹ which states very well some of the questions now under discussion and which shows the present standing of the case. In the first place the morphology and the embryology of the convolutions and fissures is not in a very satisfactory state. Futile attempts have been made to reduce to a common plan the cerebral folds of carnivora and primates. Professor Cunningham thinks the failure not to be wondered at as he believes that both came from a common smooth-brained ancestor. He considers the chief differences between the hemispheres of the human and lower forms of the primate brain (apart from the great development of the lower part of the frontal lobe) to consist first in greater richness of

secondary furrows and convolutions in man, and second, in the greater tendency of the chief fissures in the human brain to be bridged over, or interrupted by small gyri. He finds moreover, and this is an important apparent failure of the alleged law, that the development of the individual represents that of the race, that the human fetal brain is less like that of the ape than is the full-grown organ.

The chief purpose of the address was to discuss the influences by which the furrows and convolutions are produced. He rejects uncompromisingly, and beyond question, justly, the theory that the furrows are formed by blood-vessels. He alludes to Schwalbe having pointed out that the cerebellum is the strongest argument against this theory, for the cerebellar arteries though at times in the lips of the fissures, at other times, run across them. A new and very different vascular theory has been suggested by Dr. Richter, which the lecturer condensed as follows: "On the cerebral surface there are different degrees of growth energy. Along the lines of interference or breakage of the pulsatory molecular concussions there is a check to surface growth, and by reason of this, furrows are induced. In the areas between these furrows there is an exuberance of growth which leads to the formation of the convolutions." This theory also is worthless. On the one hand anomalies of the arteries would affect the type of the brain, on the other hand, in normal cases the furrows should make their appearance in more regular sequence than they do, and always in the same manner. This naturally brings up the question of the effect of the shape of the head on the character of the convolutions. "Is the brachycephalic brain moulded into shape by the brachycephalic skull? or are both the result of the same hereditary influence, and, therefore, in perfect harmony with each other as to their growth?" I am inclined to adopt the latter view; and, such being the case, I do not believe that, in normal conditions, the direction of the furrows and convolutions is affected by a restraint placed upon the growth of the cerebrum by the skull capsule. Rüdinger insists strongly that the anatomical peculiarities of brachycephalic and dolichocephalic heads are determined prior to birth."

Having rejected various theories, Professor Cunningham seems inclined to think that Yelgersma's² new views (which he shows, however, not to be so very new after all) are very satisfactory.

The gist of his statement of the law is found in the following passage: "The geometrical law involved is simply this, that in the growth of a body the surface increases with the second, but the interior with the third power of the radius. From this it is evident, seeing that the proportion of internal white matter and external gray matter is in all cases a uniform one, that in the evolution of a large animal out of a small animal a disproportion between the gray capsule and the white core of the cerebrum must result. This is compensated for by the extended cortex placing itself in folds or puckles, and thereby reducing the capacity of the capsule to a degree which brings it into correspondence with the white contents; consequently the formation of the convolutions and furrows is simply the result of the tendency on the part of the superficial layer to increase by surface extension, and of a mutual space accommodation of the gray substance and of the white conducting paths."

¹ British Medical Journal, August 2, 1880.

² Morphologisches Jahrbuch, 1880.

The same theory is made to explain the folds of the cerebellum. It is made to account also for the fact that in large animals the convolutions are likely to be especially rich, as in the whale for instance, while such mammals as have smooth brains are generally small. Yelgersma admits that his theory fails to account for the similarity of plan in brains of the same animal group. Cunningham suggests that if the theory of cerebral localization be true the different parts of the cortex must grow according to their functional activity.

Yelgersma's theory strikes us as very far from sufficient. It may show the advantages which result from the folding of the gray matter into convolutions, but, it does not in the least, explain what produces them.

THE MINUTE STRUCTURE OF THE SPINAL CORD.

Professor Golgi² of Pavia, calls attention to former observations of his which, appearing at different times in Italian publications, have not received the general attention they deserve. The central point of his researches is the morphological difference between motor and sensory nerve-cells, and the arrangement of their processes. In the first place he holds that all the nerve-cells of the cord may, in a certain sense, be called unipolar, as but a single one of their processes ever joins nerve fibres. The course of this process is entirely different in two classes of cells and serves as the real distinction between them. In one set this process breaks up into minute fibrils which take part in the formation of a general nervous network; in the other, though it may send off small offshoots, it preserves its individuality and ultimately becomes the axis cylinder of a nerve. The places in which these cells are found make it probable that the former are sensory and the latter motor. Certain analogies also favor this view. As for the other processes of the ganglion cells, the so-called proplasma processes, they never directly nor indirectly serve for the origin of nerve fibres. They are in close relations with connective tissue-cells and with blood-vessels, and presumably have something to do with the nutrition of the nervous tissue.

There is a nervous network extending throughout the gray matter of the cord, formed (a) by the breaking up of the nerve processes of the cells of the former class, (b) by fibres of the posterior roots which break up in the same way, (c) by offshoots from the nerve processes of cells of the second class, and (d) by fibres given off by the axis cylinders of the different tracts of the white substance. We omit further details as too complicated, but would point out that this wonderfully complicated and minute nervous network suggests an explanation of some of the discrepancies of observations as to the course of motor or sensory impulses. It can hardly be doubted, if these statements be admitted, that in many cases, at least, more than one pathway may be open.

THE BURSA PHARYNGEA.

This old question has come up again, but may be quickly disposed of. Dr. Poelchen³ has made further researches and finds that, though the bursa that Luschka figured had probably no existence, yet there is a pocket in the adenoid tissue of the mucous membrane at the top of the pharynx which is a region particularly exposed to pathological changes.

² Anatomisches Ansiger, Nos. 13, 14 and 15, 1890.
³ Virchow's Archiv., Bd. 119, 1890.

Dr. Potiquet⁴ in a somewhat earlier paper states similar conclusions and suggests a name for this pocket. He rejects calling it after Luschka as that would be indorsing an anatomical error and proposes one of the names by which Robin called it — *foramen cæcum*. This, he says, is sufficiently vague; which he argues is fitting for the name of a fossa of which the existence, the shape, the size and the origin are all uncertain. So far it is all very well, but it seems to us that this miserable little fossa has already names enough, and that it is generally recognized as the *bursa pharyngea*.

THE EFFECT OF HANGING POSTURES ON THE VERTEBRAL COLUMN.

Dr. James Cagney⁵ has written a paper on this subject which deserves study, for the question is an important one. We must confess, however, that parts of the paper are not clear to us, nor can we always agree with the author. He states that it has been assumed, so far as he knows, without evidence, that the vertebral column may be stretched by suspension of the body, and, that what is true of the whole, is true of each of its parts. He proposed to test this assumption in the case of each of the curves separately. The purpose of his inquiries being, apparently, to ascertain the effect of suspension on the spinal cord.

He begins with the dorsal curve which is both the most important and the most simple. If we pull on the two ends of this curve the anterior surface is lengthened and the hind border, that is, the line of the spines, shortened. "From these facts, it appears that the hinder surface of the column contracts while the bodies open out anteriorly, and that, therefore, there is a point of rotation round a transverse horizontal axis between each pair of contiguous vertebrae. This point of rotation must be at the posterior edges of the upper and lower surfaces of the bodies of the vertebrae. It is well known that the bodies of the dorsal vertebrae are thicker behind than in front, whilst the intervertebral disks are of the same thickness throughout. In an expansion or straightening of the curve, the points where the bones are thickest will be approximated, and the intervertebral substance will undergo the utmost compression there; and thus a series of fulcra is provided in a line just in front of the spinal canal. The segments behind the fulcra approach each other, and therefore the spinal canal is shortened; but, shortening of the spinal canal in any part implies a relaxation of that portion of the spinal cord which is within it." All this seems to us simple and beyond question. It may be very easily verified on a bisected ligamentous preparation of the spine.

Dr. Cagney endeavors to show that a shortening and a relaxation take place in all the three curves when the body hangs freely, and that this occurs by a different mechanism for each curve. We are not quite convinced concerning the cervical and lumbar. Apart from the mechanics, Dr. Cagney's argument is, that the curves lengthen out in suspension; that is, become arcs of larger circles and as the subtending cords remain unchanged are consequently shortened, for if the cords are equal it is evident that the arc of the larger circle approaches more nearly to a straight line. What we have failed to see is the proof that the line of the combined cords is not lengthened. The question is both interesting and important from a practical point of view.

⁴ Revue de Laryngologie, etc., Tome x, 1889.
⁵ Journal of Anatomy and Physiology, vol. xxiv, July, 1890.

THE RELATION BETWEEN THE LENGTH OF THE STERNUM AND THE HEIGHT OF THE BODY.

The writer of this report read a paper at the meeting at Philadelphia last December of the Association of American Anatomists entitled "Medico-Legal Studies on the Human Skeleton," of which the portion devoted to the sternum was published in the July number of the *Journal of Anatomy and Physiology*. It treated of the sternum as an index of sex, age and height. The last point is the only one to be considered here. It is mentioned because little has been done and it seems desirable that others should add to the number of observations. Measurements (bearing on this question) were made on seventy men and thirty-nine women, all white. The length of the sternum, that is of the manubrium and body, the rib-bearing portions—was found in the seventy men to be 9.65% of the height. The men were divided into two groups of the thirty-five shortest and the thirty-five tallest. The sterna of the former averaged 9.75% of the height and the latter 9.61%. The men were divided into still other groups without materially changing the percentage, which varied, for the groups, from 9.57 to 9.98. The average percentage of the thirty-nine women was 9.22, of the nineteen shortest 9.17, and of the twenty tallest 9.26. The variation between all the groups, male and female, was surprisingly small, the difference between the extreme groups being only eighty-one of one per cent. Of course, when individuals are dealt with, considerable discrepancies occur, but it is remarkable that comparatively few would have to be eliminated to bring all very near to the means of a few groups.

In this paper the writer referred to an inaugural dissertation on the sternum (1881) by Strauch, which he knew only by abstracts. He has very recently received it through the kindness of Professor Stiede of Königsberg. Strauch gives the proportion of the sternum to the height of one hundred men and one hundred women, but, as we think, unfortunately includes the ensiform. He, however, gives his results counting only the manubrium and body, which, when we change the notation into percentage of the height, agree pretty well with ours. His percentage for the male averages very nearly 9.60,¹ the writer's being 9.65. For the female his percentage is 9.00+ and the writer's 9.22. Strauch mentions the observations of Professor Körber who measured 1,400 living men, apparently Russian recruits, not including the ensiform and found the sternum to be 10.75% of the height, the only exceptions being those of 164 and 166 cm. We cannot suppose that this means that all the others corresponded exactly. There are two or three possible explanations for the discrepancy of Körber's results. It is possible that recruits are hardly average specimens of the male population. It is very difficult, if not impossible, to measure the sternum accurately in the flesh; and finally it is probable that dead bodies measured lying, are longer than when they were living and measured upright.

There can be no question that a good deal of individual variation must occur and that it would never be safe to decide on a man's height from his sternum alone. It might be useful as confirmatory evidence together with other measurements, and it is not at all

unlikely that it may prove a better guide than the length of the bones of the limbs. It is to be hoped that further observations will be made.

Hospital Practice.

BOSTON CITY HOSPITAL.

SUPRA-PUBIC LITHOTOMY IN A BOY OF TWELVE.

SERVICE OF ARNER POST, M.D., Visiting Surgeon.
REPORTED BY JOEL E. GOLDTHWAIT, M.D., House Surgeon.

W. D., twelve years of age, entered the hospital the latter part of June (1890), with the following history:

Since he was quite small the patient has had irregular attacks of pain, preceding micturition, and referred to the end of the penis. The attacks vary greatly in duration, usually lasting for a few days or weeks; with intervals, usually of longer duration, of entire freedom from any symptoms. For the past few months these attacks have been growing more severe, while during the last two weeks the pain has been much more acute than formerly and has been present almost constantly. The pain is relieved by micturition.

For quite a long time there has been difficulty in starting the stream of urine, necessitating violent straining, but when once started very little effort is required. The presence of blood in the urine has not been noticed.

On examining the child, the first things that attracted attention were the conditions which had evidently been produced by the straining that precedes micturition. There was quite extensive sub-conjunctival hemorrhage on both sides; the abdominal muscles, particularly the recti, were abnormally developed and there was also a moderate prolapse of the rectum.

On exploring the bladder, a large-sized calculus could be felt, both with a sound and with a flexible catheter. This same mass was felt by digital examination through the rectum. It was freely movable, and on pushing it upwards the urine was passed without difficulty.

The prepuce was fully twice the normal length, with a mere pin-hole opening. Retraction over the glans was impossible.

In the interval between the admission to the hospital and the operation, the patient was kept in bed, with the pelvis elevated. There was quite constant pain preceding micturition, which was relieved occasionally by inverting the child, head downwards; while at other times, when apparently due to the spasmoid contraction of the bladder-wall upon the calculus, it was only controlled by morphia or complete etherization.

July 10th, the operation was performed by Dr. Post. Owing to the unusually small size of the urethra, the smallest evacuating tubes could not be passed into the bladder; hence all idea of crushing the stone had to be abandoned.

Operation. — The bladder was distended by injecting about four ounces of a two per cent. solution of boracic acid. The rectal bag was not used. A median incision two inches long was made, the lower end being just over the pubes. This was carried down to the bladder. All hemorrhage controlled by pressure-forceps. The

¹ From some source of error which escapes us we make it by changing the notation of certain results 9.61 and of others 9.59.

peritoneum was thought to be exposed, but without any attempt to positively identify it, it was drawn towards the upper angle of the wound, where it was held and protected during the operation by the finger of an assistant. A longitudinal incision about an inch long was made in the bladder-wall. Through this incision a stone weighing 585 grains was removed with some difficulty. The bladder was washed out with a two per cent. boracic-acid solution, and the two extremities of the wound closed with silk sutures, the middle portion being left open for drainage. No drainage-tubes were used. A large absorbent-gauze pad was applied, the inner layers being moistened in corrosive sublimate solution (1-3,000). While the boy was under ether the prepuce was cut and the phimosis relieved.

The convalescence was uneventful. The urine drained freely through the wound, very little, if any, coming through the urethra until the seventh day after operation, when a urethral bougie was passed, after which the urine was passed voluntarily by the urethra in varying quantities until, on the twenty-seventh day, the abdominal wound entirely closed, it having been merely a slight sinus for a week or two previous to this, through which the urine escaped only by drops.

On the fourth day after operation, the child was out of doors in a wheel-chair.

On the eighteenth day, he was playing about the ward with the other children.

August 11th, one month from the time of operation, the patient was discharged from the hospital in excellent general condition. The abdominal wound had been closed for several days, and the urine was passed by the urethra without difficulty.

Reports of Societies.

RHODE ISLAND MEDICAL SOCIETY.

GEORGE D. HERSEY, M.D., SECRETARY.

QUARTERLY MEETING, September 11, 1890.

DR. J. F. HALLER read a paper on

MODERN PHYSICAL DETERIORATION, AND SOME REMEDIAL SUGGESTIONS.

At the recent medical congress in Berlin, Professor Paul Gibier, in a paper on "Temperaments," proposed a new classification—the acid, the alkaline and the neutral or normal temperament. Professor Gibier holds that persons with the alkaline temperament are free from ailments of the heart and blood-vessels, eczema, and the various forms of cancer. The secretions are but slightly acid, and acidity of the stomach is unknown in early life. Women with this temperament bear children easily, and seldom have rheumatism or gout, but when living under unfavorable circumstances, are prone to consumption. The acid temperament does not favor the development of tuberculous and scrofulous diseases; but its possessors are exposed to neuralgia, migraine, rheumatism, gout, aneurism, asthma, diseases of the nervous system, cancer and malignant tumors. The neutral is the normal temperament, and insures health and long life. It is to be cultivated by attention to exercise and diet. Professor Gibier holds that in modern life there is an

increasing number of people with the acid or alkaline temperament, and hence an increasing frequency of tuberculous, nervous and skin diseases.

Whether this theory is right or wrong, it is a step towards concentration, and calls attention to the steady physical deterioration of the race. This progressive degeneracy is largely due to hereditary influences, but is also caused in great measure by acquired or self-induced, and hence preventable, causes. While so much is being done for the mental improvement of the rising generation of Americans, their physical culture is left very much to inclination or chance. Prior to 1860, the leading American colleges had no gymnasiums, and to this day but very few of our prominent schools give methodical attention to the physical development of the students, while special courses of instruction on public and private hygiene and State preventive medicine are almost unknown. All of our schools should have a uniform regular system of gymnastic exercises, as in Germany, France, Belgium and Sweden, where physical education is an essential part of the school curriculum.

The modern European systems of gymnastics are mostly founded on the principles of physical training laid down by the Swedish gymnast, P. H. Ling; and we find this system adapted for general instruction in Baron Nils Posse's recently published "Swedish System of Educational Gymnastics." The same system as adapted to massage and medical gymnastics will be found in Hartvig Nissen's "Swedish Movement and Massage Treatment." The latter is of special value to physicians, as there is no period of life when a man or woman may not profit by systematized exercise judiciously pursued.

DR. E. P. KING: I would like to ask the essayist if he has any statistics to show that the race has deteriorated in physical stature. I am told it would be impossible to get a regiment of modern soldiers inside the armor of old times—a regiment like those New Hampshire men that were parading the city yesterday, for example. I am told, too, that the early Italian artists, when they took their fellow-citizens as models, painted a rather scrawny-looking lot; that it was not until they had discovered the remains of the old Greek art that they painted their subjects rounder and fuller and more muscular. The Amoskeag Veterans would, I think, compare very favorably with the figures of the pre-Raphael panels and frescos.

Dr. King said he would not like the reader to think him out of sympathy with the recommendations of the paper, and called attention to the prizes for physical culture lately awarded at Harvard, as evidence of an accomplished step in the direction desired.

DR. L. F. C. GARVIN: There is certainly an increase of longevity in modern times. I think that the New Englander of to-day would suffer somewhat in physical comparison with his ancestors of colonial times, just as he does in contrast with the inhabitants of the less cultured parts of America. The average height of regiments from Kentucky and the backwoods of Maine exceeded that of recruits from the cities of New England and the Middle States. Then, the defective sight is much more common here than in portions of the country where books are less studied and out-door life is the pastime of youth. Max O'Rell in "Jonathan and His Continent," however, makes special mention of good physical condition of Americans, saying that not one in ten thousand of the

persons one meets upon the streets of New York, is deformed.

In Rhode Island factory villages it is not uncommon to see operatives who show signs of a rickety childhood, but these people are of foreign birth, and their ancestors have been mill-hands for generations. It is said that deformities are much more frequent in some counties of England than in others where a different manufacture is carried on. These defects are doubtless due largely to mothers going into mills to work, and leaving their infants to be brought up on artificial diet. Frequently these immigrant women who have borne large families have but two or three living children, the rest having died in infancy. In comparison with these mothers of foreign birth, I have observed that native American women are deficient in muscular vigor, their labors being oftener protracted by lack of pains.

Dr. W. H. PALMER: I believe that the American people are deteriorating physically. The fact is observed not so much in the physique of the people as in their loss of physical vigor. Stature has been preserved better than resistance to disease or endurance of the same. There is proof of this deterioration in the fact that notwithstanding the advance of medical science there is an increase of mental and nervous diseases; also in the fact that the proper depleting treatment of disease during the last century has changed to the necessary supportive treatment of the day. One cause of this deterioration is race intermarriage; another cause is fast living. I am glad the reader has emphasized the hereditary factor of deterioration, for it can hardly be overrated. His remedial measures against race deterioration are excellent, but to my mind begin in *medias res*. The best remedy is undoubtedly the prevention of the source, to wit, the birth of beings physically imperfect. Gymnastic exercise will increase physical vigor, but just about as the twig is bent the tree will incline.

It was not so much the martial exercise, the athletic sports, the dining at common tables and education in physical and moral courage that gave to the Lacedemonians, in their best estate, their remarkable physiques and physical endurance as the law of Lycurgus which forbade the rearing of children not born strong and well-proportioned. When legislation shall prevent the marriage of persons of deformed bodies and weak, diseased constitutions; when medical science shall no longer exhaust its skill in preserving those weakling births which nature can best care for by those beneficent laws governing the struggle for existence, and the survival of the fittest, then shall we look for race invigoration. Evolution means progress only under the law of selection.

Dr. E. C. SEGUIN: I must say that I cannot endorse the pessimistic views which have been advanced relative to the health of the human race, by the author of the very interesting paper and by several gentlemen who have spoken. On the contrary, I believe that historical and statistical evidence goes to prove that the health and strength of civilized races have improved in the last ninety or a hundred years. Here and there, in certain areas, among certain nations degeneracy may have occurred, but the general tendency has been, in accordance with the law of evolution, toward improvement. I cannot imagine that man should be free from the operation of that great law which means progression as well as variation for all living beings, especially

the higher mammalia. True, we often interfere with the operation of the law of natural selection and often prevent the decay and death of the unfit, but in spite of this, progress is evident. Proofs lie in these facts: that longevity has increased in civilized countries, and at the same time the population of nearly all civilized nations has increased greatly in this century. Then again, it is an admitted fact, that civilized men, the most civilized men, are larger and stronger than savages. In the wilds of Africa and in the uncivilized regions of Asia, we meet with the smallest men. Comparisons have been referred to as between Ancient or Middle Age soldiers and our own; but such comparisons are dangerous, inasmuch as statistics did not really begin to be created until after 1840. Some figures of height and chest measurements were given out after the late Civil War, which would show that, instead of having a regiment or two of men over six feet high, as Frederick the Great had (referred to by the author of the paper), we had tens of thousands of such large men in our army.

I am more interested, however, in the closing and practical part of Dr. Haller's paper, wherein he advocates the cultivation of gymnastics in schools. I especially agree with him in the distinction he draws between hygienic or physiological gymnastics and athletic gymnastics. In referring to the good work begun in this direction by many of our colleges, he has, I think, hardly done justice to Professor Sargent of the gymnasium at Harvard University, whose aim has pre-eminently been physiological development by gymnastics. Allow me to suggest, however, that though these collegiate gymnastic courses are excellent, and doubtless will bring forth fruit, it looks to me like beginning at the wrong end. The time when hygienic or physiological gymnastics should be begun is in early childhood, before deformities have begun to appear, and when the bones and muscles are yet plastic. When our young man and young women reach the college gymnasium, their osseous and muscular systems are almost complete in development—not fully so, however, so that improvement does ensue. But from the sixth year, at least, the children in our schools should be taught by competent teachers to breathe properly, to use both hands equally, to drill their muscles, and deficient or weak parts should be carefully exercised and improved. As Dr. Haller says, by all means we must use our professional and personal influence to induce the authorities to introduce hygienic gymnastics in the primary, public and private schools. The foundations of health and strength should be laid then and there. Besides, it should be borne in mind, as stated by another speaker, that the vast majority of our public-school children never reach the colleges, and hence never have opportunities for scientific instruction in gymnastics.

It has seemed a strange thing to me that we Americans should complacently sit with folded hands and imagine our primary schools to be the best. In many parts of Europe, even in small States like Belgium and Switzerland, the schools are ahead of ours in scope, in attention to height and shape of seats and desks, and in lighting arrangements. Besides, in Europe much more attention is given to manual or industrial education for the poor; and in some schools ethics is taught; a science which with us is practically ignored and relegated to the Sunday-school and church, where thousands of young people will not or cannot go to get it.

These may be far-away improvements; but what deserves immediate attention, and what it is perfectly reasonable for us physicians to demand, is that the children of our primary schools, public and private, should have scientific instruction in physiological gymnastics and personal hygiene.

THE NEW YORK ACADEMY OF MEDICINE.
NEUROLOGICAL SECTION.*

DISCUSSION ON RABIES OR HYDROPHOBIA.

THE president of the Section, DR. L. C. GRAY, in discussing the clinical aspects of the disease, said that the extreme variability in the period of incubation had given ground for the belief held by many competent observers that if there really existed such a disease as hydrophobia at all, death might also occur, as the result of fear, with symptoms closely resembling the true disease; and the speaker thought himself justified in assuming that frequent mistakes were made in the diagnosis of rabies, the so-called dumb rabies being merely a symptom of simple purulent meningitis and meningo-encephalitis, and that very few cases of either rabies or hydrophobia, the latter term being used to signify the disease in man, had been observed in New York City, or in the country at large. He believed that there was a disease running a fatal epizootic course in the dog and other lower animals capable of being communicated to the human being and causing death, though the evidence of this would rest mainly upon pathological and experimental findings.

DR. C. L. DANA said that there was no constant change to be found in this disease. The nervous centres, which were the parts chiefly involved, were congested, and occasionally showed hemorrhagic and softened spots, with subsequent evidences of increased vascular activity. Exudation of leucocytes into the perivascular spaces, and possibly the beginning of a multiple focal myelo-encephalitis or of focal necrosis. The symptoms were evidently not the result of any organic changes in nerve tissue, but of a distinct poison, the product, undoubtedly, of microbial activity. In the light of Pasteur's scientific work, this question of specific origin was proven.

The speaker did not believe that there were authentic clinical records of a single case in which the fear of hydrophobia had caused a disease measurably similar to rabies, nor was there a case of death from this hypothetical phantasm. There had possibly been some tetanus following bites or acute mania, in those predisposed, from fright. He thought Pasteur had demonstrated the fact that, as a reliable prophylactic measure, aurorable inoculations could be successfully employed.

DR. H. M. BIGGS then gave an elaborate description of the respective methods of inoculation and of the various emulsions used in the work of both Pasteur and Ferran.

DR. H. C. ERNST, of Boston, who has done considerable experimental work in this field of inquiry, said that he regarded the results of Pasteur as among the greatest achievements of modern medicine. The speaker had been entirely converted to a thorough acceptance of the theory, after conducting a series of inoculation experiments. If there was one thing certain in medicine it was the unerring precision in the

results obtained by the inoculation with these cord emulsions under the dura mater of the healthy rabbit. There was nothing like it in the whole range of scientific experimentation. As to the existence of a constant lesion, pathognomonic of rabies, he did not know that this could at present be defined with scientific accuracy, but careful observation had demonstrated the very uniform presence of infiltration of the minute vessel walls in the medulla with white cells, engorgement of the veins, and occasionally peri-vascular hemorrhages. What appeared like small miliary abscesses were also present. The condition had been aptly covered by the term miliary bulbitis.

The speaker then gave the clinical histories of three cases of true rabies in man, which had come under his own personal observation and which, taken with the fact that a large number of dogs were affected at or about the same period, pointed to the recent existence of an epidemic of rabies in Boston. One of the cases cited in detail, was of special interest, because the patient between the paroxysms was able to describe his condition. He had been especially questioned as to whether there existed any repugnance to water and had positively stated that this was not so, but that any mental process connected with the act of deglutition, causes an uncontrollable spasm of the muscles of the throat, and this patient had also described himself as perfectly conscious of his acts during the violent paroxysms, but as being utterly unable to control himself. Even while thus quietly describing his sensations, the fit would come on and the next moment he would be on the floor, struggling with four or five men, and then as to the value of the preventive method the speaker instanced the case of a boy who was bitten in August by a dog which within fifteen minutes had also bitten several dogs. Of these, two had died of rabies and the father of the boy becoming alarmed, had consulted the speaker. Inoculation was advised and submitted to twice a day. No bad symptoms had resulted. Before the boy's return home a third dog had succumbed to unquestionable rabies.

Whether there was anything in Pasteur's claims or not, one thing was certain, he had got hold of a specific virus which could be transferred from one animal to another indefinitely, always producing a sequence of practically identical symptoms. The experiments made by Dr. Spitzka had not been carried far enough, they had produced something similar to the appearance of rabies in the rabbits, but had offered no sort of ground for comparison with Pasteur's experiments. While hardly wishing to stand up as a champion of the Pasteur method, if the statistics of the Institute were not reliable, he was still bound to believe in the honesty in purpose of Pasteur and his assistants. It was a significant fact that after the careful elimination of all cases in which an element of uncertainty existed, the mortality rate for those treated by inoculation under the method, was only ninety-eight one-hundredths of one per cent. He expressed surprise at the statement that there could be no such condition as pseudo-lyso-phobia.

DR. R. W. BIRDSALL said he had seen a number of cases of pseudo-rabies resulting from fright after a bite or scratch of a dog. These cases had not resulted in death, though he was not prepared to go so far as to say that death from fright was not possible. The nervous shock sustained might set up a series of changes such as motor paresis, edema of the brain and coma,

* October Meeting, 1890.

resulting in death. He did not believe they were yet in a position to be able to refer the phenomena of true rabies to the existence of one kind of specific germ. The effects might be due to the presence of distinct varieties.

DR. H. P. LOOMIS had only considered the subject from a pathological standpoint. The findings tallied very much with those described by Dr. Ernst. Sections of the lower portion of the medulla had showed congestion of the capillary vessels and giant-cell infiltration of the adventitia, but no capillary hemorrhages or thrombi.

DR. BYRON, who has made extensive experiments both at the Carnegie and Loomis laboratories, had arrived at the conclusions that (1) inoculations of the specific virus of rabies under the skin were completely useless; (2) that the results desired could never be produced by any process except subdural inoculation, and that even then the result was doubtful. The question was a serious one, and the subject still in need of further experimental research before any definite scientific conclusions could be formulated.

DR. E. C. SPITZKA said he had made no experiments on rabbits as intimated by Dr. Ernst, who had evidently not followed the points of the speaker's work. In the experiments made by him on dogs he had made no claim that these animals had represented true cases of hydrophobia; but by the introduction of various irritating substances into the brains of these dogs, he had produced a condition of bogus hydrophobia. He was now associated with the conduct of a series of elaborate experiments on rabies, the results of which, could not, as yet, be formulated.

DR. L. C. GRAY thought the discussion had proved (1) that there existed undoubtedly in the lower animals a disease, known as rabies, possibly made up of several diseases, due to different micro-organisms; (2) that this disease was more frequent in the lower animals than a similar disease in man known as hydrophobia; (3) that while this so-called rabies in animals occurred very often in this country, it occurs less frequently in the human being; (4) that very few medical men have seen genuine cases of hydrophobia; (5) that cases of pseudo-hydrophobia were by no means uncommon and that death could result from the condition; (6) that there still existed considerable diversity of opinion as to the value of Pasteur's method which would furnish material for discussion and incite to further experiment.

AMERICAN GYNECOLOGICAL SOCIETY.¹

DISCUSSION ON THE QUESTION OF AMPÈRAGE IN THE TREATMENT OF FIBROID TUMORS BY ELECTRICITY.

DR. TREMAINE, of Buffalo, was not able to obviate intra-uterine cauterization even with a very mild current and after an experience of sixteen cases he was rather disappointed with the electrical treatment. He believed the actual value of Apostoli's treatment of fibroids was still *sub judice*, and raised the question as to what became of the abdominal walls and other thin tissues if the electrolytic action, which passed through them to get at the tumor, was sufficient to completely decompose and dissipate the tumor—why these tissues were not also decomposed.

¹ Fifteenth Annual Meeting, Buffalo, N. Y., September 16-18, 1890. Continued from page 377 of the Journal.

DR. A. J. C. SKENE, of Brooklyn, believed there was a certain amount of electrolysis going on in the abdominal walls and in the intervening tissues between them and the fibroid tumor, but that they remained intact while the tumor was dissipated for the reason that it was of lower vitality and could not resist the decomposing action of the current. Even if the normal tissues do sustain a certain electrolytic action, their great vitality enables them to soon regain their original condition, while the fibroid does not. He did not believe that cauterization was ever necessary to stop the growth of the tumor, and that in avoiding it all the dangers of electrolysis would be obviated. He would never carry electrolysis to the point of cauterization. He believed that electrolysis with the positive pole in the cavity of the uterus produced stenosis, and that it could be avoided by the use of the negative pole. Very few cases can ever be said to be cured, that is to say that the tumor has entirely disappeared, but if we limit the word "cure" to mean an arrest of the growth, in that sense many have been cured. In many cases the tumor has been very much diminished in size and the symptoms have been cured, which might be called "symptomatic cure." He thought that Apostoli meant to be honest, but, like all other enthusiasts, he was inclined to over-estimate his work, but that in the main he is correct.

DR. H. P. C. WILSON, of Baltimore, believed that for violent bleeding myoma, the carbon uterine electrode was the proper one and he much preferred it to the platinum electrode; that electricity was not applicable for intra-uterine pediculated myoma, or sub-peritoneal pediculated myoma, or soft edematous myoma; but that the intra-mural form could be cured in the sense referred to by Dr. Skene. He believed that much of the dissatisfaction with the use of the electrical treatment was due to the fact that operators were too sanguine and used electricity for all kinds of tumors when it should only be used in selected cases.

DR. MYNTER, of Buffalo, called attention to the statement of Dr. Ford in regard to the difference between electrolytic action and electro-chemical action, the former produced by a moderate number of cells with a large surface and low intensity, while the latter was caused by the application of a battery of very small cells, having a very high tension, and thought that perhaps the diversity of opinion in regard to electricity was due to the fact that many who administered it did not have the proper battery. He was also convinced that the electro-chemical action frequently caused sloughing.

DR. ROSEBRUGH, of Hamilton, Ontario, asked whether in cases claimed to be cured there was any other form of medication, such as ergot, given coexistent with electricity?

DR. H. P. C. WILSON, of Baltimore, used no medication except enough to regulate the bowels and nervous system with bromide of potash, etc. He considered ergot as absolutely worthless in fibroids.

DR. W. C. FORD, of Utica, never found that the soft edematous fibroids would not yield to electricity, but that in the very hard ones he had found it necessary to cauterize in order to make any impression on them.

DR. GEHRUNG, of St. Louis, believed that better results could be obtained by puncture, where it was admissible, then by treating the tumor through the walls of the uterus, and that in the large exudation

tumors filling the pelvic cavity and firmly adherent to all the pelvic organs — where any operation was impossible — could be successfully treated by puncture and electrolysis. He uses the trocar electrode and double canula, with two tubes attached, through which, by the use of the aspirator, he can wash out the cavities of the tumor if it be a cystic one.

DR. A. J. SKENE, of Brooklyn, thought that ergot was only useful in sub-mucous uterine tumors with a tendency to become pedunculated, or those that were undergoing a natural process of elimination — cases which did not call for electrolysis. In cases of bleeding fibroids he would remove a portion of the hypertrophied mucous membrane of the uterus to control hemorrhage; then apply iodine to the mucous membrane which acts as a disinfectant, and then electricity. In cases where the hemorrhage was not severe he would use ordinary disinfectants, but in obstinate cases he believed that *hydrastis canadensis* was valuable and that it had a beneficial effect on the mucous membrane of the uterus. He frequently used it in connection with cureting, iodine and electricity.

SECOND DAY.—MORNING SESSION.

VAGINAL FIXATION OF THE STUMP IN ABDOMINAL HYSTERECTOMY.

by DR. HENRY T. BYFORD, of Chicago.

Dr. Byford presented this paper as a supplement to one read by him a year ago. Extended experience had taught him the advisability of modifying the method which he had recommended, and he cited eight cases in which he had deviated from his former operative procedure. The method which he had advised consisted of making a stump of the Schroeder-Martin intra-peritoneal variety, and then, instead of dropping it into the abdominal cavity, of separating the bladder from the cervix, cutting and tearing down through the anterior vaginal wall, anteverting the stump into the vagina, and holding it there by tenaculum forceps. The peritoneal cavity was closed over the stump by suturing the reflected edge of the bladder peritoneum to the posterior surface of the stump with catgut.

The characteristic steps of the operation as now performed by Dr. Byford, are as follows:

Ligate the broad ligament; separate the bladder from the cervix; put on a temporary elastic ligature below the tumor; transfix and cut off the mass above; ligate the stump in several parts with silk; remove the elastic ligature; perforate the anterior vaginal wall in front of the cervix; turn the stump forwards into the vagina, and clamp it firmly there; sew the peritoneal edge, that was separated along with the bladder from the anterior surface of the uterus, to the posterior surface of the stump, so as to close off the peritoneal cavity from the vagina; close the ventral incision, with or without drainage. A small strip of iodiform gauze, stuffed from below into the rent in the anterior vaginal wall, and left for twenty-four or thirty-six hours, may be used to prevent any accumulation of discharge at that point. The time occupied in separating the bladder and anterior vaginal wall from the cervix and putting on the clamp-forceps should be no longer than for the adjustment of the stump in ventral fixation. The other steps are practically the same. Bladder wounds can be treated extra-peritoneally, without displacement of the viscera.

In each case of those reported by Dr. Byford, the shortened upper end worked its way back into the

connective tissue behind the bladder, so that, in a few weeks, the os and cervical canal were normal as to position and mobility. One case resulted fatally at the end of the fourth day, death occurring from general septic peritonitis, which was not, however, in any way connected with the treatment of the stump.

DR. HOWARD KELLY, of Baltimore, would divide fibroids into four classes:

(1) Those which are pedunculated and intra-uterine which can be removed from the cervix. (2) Those which can be removed through the abdominal incision by myomectomy, without removing any substantial portion of the uterus. (3) Those with a distinct pedicle which can be removed by supra-vaginal hysterectomy; also those in which the pedicle can be formed, but where it is necessary to cut under the tubes and ovaries and through the broad ligament to get at it. (4) Atypical cases, where the tumor is spread out laterally in the broad ligament, almost filling the pelvis, and where it is impossible to get a pedicle, the patient usually dying from hemorrhage and shock. These latter cases cannot be treated by section, which is limited to cases with a distinct pedicle; and there is no well defined method of treatment for them.

In treating these fibroids we must consider first that we have a very large fleshy pedicle, the ligating of which controls the hemorrhage at the time of operation, but which may be profuse after it is dropped back into the abdominal cavity and thus prove a source of contamination. He compared the methods of treatment of Hegar, the extra-peritoneal, and its modifications by Zwiefel, and of Schroeder, the intra-peritoneal; his own, a modification of the two, and also Dr. Byford's. The first he claimed to have had such a death-rate that it was abandoned, but subsequently rendered legitimate by Zwiefel, who performed it with more care. Hegar's method of allowing the stump to slough off, he considered an unsurgical procedure as to tie a string to the finger and allow it to slough off. It is also very difficult where the stump is short, which contracting up into the abdominal wound has often caused sloughing into the tissues below, followed by death or a very protracted convalescence. To overcome this difficulty, he adopted the plan of suturing the stump with buried and superficial sutures, and suspending it in the lower angle of the abdominal incision. A square pad of iodiform gauze is placed over the external end of the stump through a hole in the middle of which the sutures which have been left with long ends are drawn, and can be grasped with the forceps at any time, in case of accident, thus giving complete control of the stump. This has stood the test of nine cases with but one death, which was due to vascular lesions. Dr. Byford's method is good for the smaller tumors, but it would be very difficult to deal with a broad pedicle by this method. It has the advantage of avoiding the risk of hernia which follows from suspension of the tumor in the angle of the abdominal wound, and also affords excellent drainage, being in a dependent position. It is probably as good an alternative in these cases as any other that we have, but must be tested in a wider field before its real value can be determined.

DR. WILLIAM POLK, of New York, referred to the fourth class of tumors mentioned by Dr. Kelly, which he treated by a plan which was a modification of the one suggested by Dr. Minor, of Buffalo, in the treatment of non-pedunculated ovarian tumors — a process

of complete enucleation. He would ligate the uterine artery, and in some cases, where there was a good deal of hemorrhage from the posterior wall of the tumor, he thought it advisable to cut down and ligate the utero-sacral ligaments on either side, in order to control the hemorrhage. He burns a hole with the cautery right through the cervical canal, burning the tissues well around the hole, after which the cavity is packed with a long strip of iodoform gauze which is brought out of the opening, and the abdominal incision is closed in the ordinary manner adopted in the treatment of ovarian tumors that are enucleated in a like manner, thus affording complete disinfection of the cervix.

DR. E. C. DUDLEY, of Chicago, had performed Byford's operation in two cases with perfect success, with a simple modification in the packing of iodoform gauze.

DR. A. J. C. SKENE, of Brooklyn, thought that Byford's method was only adapted to the cases where the stump is small, and that it would be difficult for him to handle a large stump. He believed that complete removal of the cervix might be substituted for Byford's operation, also in dilatation of the cervix and complete inversion of the same. Before adopting Byford's method, the relative value of these other two methods should be ascertained.

DR. JOSEPH TABER JOHNSON, of Washington, had successfully performed five cases by the Bantock method. He thought it was better to have a long convalescence caused by the sloughing off of the stump in this operation, than to try some other operation and have no recovery at all. He believed the method referred to by Dr. Skene of the complete removal of the infected stump, and providing proper drainage, would be the ideal method.

DR. E. C. DUDLEY, of Chicago, had tried inversion of the stump, and found it an exceedingly difficult operation to perform and almost impossible to accomplish, no matter how much dilatation was used. He had also attempted the removal of the entire stump by placing on the lock forceps through the vagina to secure hemostasis, but believed it a very difficult and not very practical operation. Dr. Byford's method should be adopted in all cases of large fibromata which completely filled the uterus and spread out into the broad ligament, especially if the size of the cervix be reduced by the cautery as spoken of by Dr. Polk. The vagina is quite capacious and will hold a pretty large stump.

DR. GEORGE KEITH, of Edinburgh, corrected the statement of Dr. Johnson that his father had given up hysterectomy. He gives his patients electricity first, and if that treatment is not successful, he resorts to operation — that is his practice at the present time.

DR. WILLIAM M. POLK, of New York, was glad to know that the elder Keith had not given up hysterectomy, which was encouraging to those who wished to maintain the same position. He agreed with Dr. Dudley that the operation for the complete removal of the uterus and cervix by applying clamps through the vagina to control hemorrhage, was a very difficult and unsatisfactory operation; and was inferior to the complete extirpation of the uterus by the use of the ligature, notwithstanding the fact that in some cases where the cervix is deep down, that operation was prolonged by a good deal of bleeding. Dr. Byford's method has the advantage of simplifying and shorten-

ing the operation. Another method suggested about the same time, or since Dr. Byford's, which accomplishes about the same end, is that after the stump was cut off and the bladder dissected away instead of making an opening into the vagina, with one blade of the scissors in the cervix, and the other outside, the cervix can be cut right down into the vagina, and the mass turned inside out, on the same principle as in the Porro operation in Cesarean section.

DR. HOWARD KELLY, of Baltimore, believed there was still another class of cases in which hemorrhage could not be controlled by the methods described by Dr. Polk and others, and for those cases he had devised a corrugated uterine sound by which he could discover the relative position of the uterine arteries when they were displaced, and in that way control the hemorrhage. These tumors, no matter how large, seldom reach to the ovarian arteries and veins at the points of emergence from the abdominal aorta, and he would in cases of excessive hemorrhage tie these arteries and veins up into the abdominal cavity and in desperate cases where it was impossible to get the tumor out, he would adopt the heroic treatment of temporarily compressing the abdominal aorta, and he is convinced that there is a certain class of cases that cannot be treated in any other way. In his own operation if there is any oozing after the stump is sutured he ligates the uterine arteries and has always succeeded in checking any hemorrhage that might have occurred. Bantock's operation is exclusively and only fitted for cases of pediculated fibroids, and if applied strictly to such cases, the mortality should be nil.

DR. J. C. TEMPLE, of Toronto, agreed with Dr. Skene that the total extirpation of the entire mass was the most rational procedure. He did not believe in the inversion of the mass through the dilated cervix as he had found it a most difficult method. Dr. Byford's plan is a good one in selected cases where it is not desired to remove the whole of the tumor.

The President, DR. JOHN P. REYNOLDS, of Boston, delivered the

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in which he dealt with the subject of the sacredness of the family, and of the matrimonial state, in a masterly way.

INJURIES TO THE URETERS DURING LABOR.

DR. ALEXANDER J. C. SKENE, read a paper with the above title. He stated that, while engaged in private and hospital obstetric practice, he had attended many cases which differed materially from any recorded in obstetrical literature. In consultation, he had seen many of similar character. From clinical phenomena observed, he was led to believe that injuries to the ureters, during labor, were the cause of the phenomena witnessed. The patients are usually primiparae, or those who have had many tedious labors, instrumental or manual, and the progress after delivery, satisfactory, or fairly so. The lochial discharge and the secretion of milk is usually normal; the bowels and the kidneys act normally; sometimes there is retention of urine, or frequent and painful urination. Pelvic pain and tenderness in the lower part of the abdomen are present, but are not always severe at first. The symptoms become more acute after a time, the pain and tenderness increase rather abruptly, and a chill or rigor may occur at this time; distension

of the bowels takes place, and the temperature and pulse run up. Pressure shows increased tenderness, and bimanual manipulation of the kidney, upon the affected side, usually causes a sense of distress rather than acute pain.

The increase in the severity of the symptoms supervenes in from three to five days, and soon thereafter a quantity of pus, and sometimes blood, appears in the urine. When the discharge of pus begins the patient is generally relieved to some extent. The pain is less, and both temperature and pulse are reduced a little. In connection with pus and blood, renal casts may be found, but this is not invariably the case. The pus, in diminished quantity, continues to be discharged for a week or more. The bleeding generally subsides in a day or two days, and most of the cases gradually recover. In other cases, acute disease of the kidneys appears, about the time that pus begins to be discharged from the bladder, and uremia, and sometimes uremic coma, follows. Such cases end fatally, as a rule, but there are a few records of recovery. In uncomplicated cases, a vaginal examination is negative, excepting that tenderness is detected high up on the affected side. If there is evidence of kidney disease, the thought naturally occurs that it must have begun during pregnancy, and that the acute symptoms which follow labor are due to a sudden increase of a pre-existing nephritis. The existence of renal disease cannot be held to be a rule, as, in many cases, there is nothing which would even suggest it.

The diagnosis of injuries to the ureters must be made by the exclusion of the more common puerperal affections, such as peritonitis, cellulitis or general septicemia. Metritis is excluded on the ground that the lochia are normal, that there is absence of tenderness, and that involution progresses as it should. The symptomatic fever is too mild in character to indicate general peritonitis, and the physical signs of that affection are wanting. The tenderness on pressure on the affected side and the constitutional disturbances not otherwise accounted for are suggestive of cellulitis, but the evidence, in the way of physical signs, is insufficient. The sudden appearance of blood and pus in the urine leads one to suspect that an abscess has formed in the cellular tissue, and discharged into the bladder. This is, however, excluded on the ground that physical signs of cellulitis are lacking, and that, furthermore, an abscess never discharges into the bladder in so short a time after the inception of pelvic cellulitis.

In the cases which are complicated with traumatic cystitis, it might be presumed that an abscess had formed in the wall of the bladder; but this is excluded for the reason that the violent symptoms and physical signs found in traumatic interstitial cystitis are absent. The history of injury to the ureters does, in fact, differ from that of any of the puerperal diseases found in medical literature.

Dr. Skene stated that he believed that the evidence of acute nephritis, which was found in several post-mortem examinations, had little significance, and that the lesion was simply secondary to an injury to the ureters. If the ureter is not completely blocked, recovery may take place; but if the stricture in the ureter be complete, acute uremia may supervene, and cause death.

If the cervix uteri and the pelvic floor be injured

and metro-cellulitis follows, the ureters may be secondarily affected. In such cases the development of the pathological lesions is reversed.

Dr. Skene cited several cases in which he had made post-mortem examinations, where it was evident that traumatism of the ureter was the initial lesion, and led to extensive and fatal disease. It would appear that laceration of the ureter had been produced by the head of the child, the hand of the obstetrician, or, more frequently, by injudicious use of the forceps.

The following, Dr. Skene says, is a convenient classification of diseases and injuries of the ureters: (1) Injuries of the ureters during labor. (2) Obstructions of the ureters, secondary to other pelvic inflammations. (3) Obstructions due to neoplasms and uterine displacements. The second and third are taken from Englemann.

The conditions which predispose to injury to the ureters are: The bladder and terminal ends of the ureters resting low in the pelvis towards the end of gestation. Defective nutrition of the ureters, with a consequent loss of elasticity and resisting power. Preexisting lesion or functional derangement of the ureters.

Among the direct causes are: The increased pressure and traction to which the ureters are exposed, in cases in which the cervix uteri and bladder are carried down into the pelvis before the advancing head; When the membranes rupture before dilatation is complete; The presence of fecal matter in the rectum; Faulty methods of operating, especially the giving of undue lateral motion to the forceps.

The treatment following injury to the ureters is, in great measure, expectant. Free catharsis, washing out the bladder, catheterization, remedies to relieve pain, will be found indicated, severally or collectively. The surgical treatment of these affections is not in a highly developed state.

(To be continued.)

Recent Literature.

International Atlas of Rare Skin Diseases. Editors: MALCOLM MORRIS, London; P. G. UNNA, Hamburg; L. A. DUHRING, Philadelphia; H. LELOIR, Lille. Hamburg and Leipzig: Leopold Voss.

The object of this work is to present for the study and enlightenment of those especially interested in dermatology, accurate pictorial representations of unusual affections of the skin, together with a description of the case, and, as far as possible, the result of histological, bacteriological and experimental pathological investigations. It is the intention of the editors, who represent the German, French, English and American schools, to publish from two or three numbers yearly, and the first two portions, containing each three subjects with accompanying text, have been received. The design of the work is to be heartily applauded, and especially its international character, as recent congresses have abundantly proved that many of the rarer cutaneous affections are classed under widely varying heads by dermatologists of different nationalities, and any attempt at a mutual understanding must be heralded as true progress.

The illustrations are carefully and probably accurately elaborated, and the printing is very good.

The criticism that suggests itself at once is as to the object in producing the text in three different languages—German, French and English, thereby adding materially to the expense of an already costly work. As the subscribers will be composed almost entirely of specialists in dermatology, whose reading of necessity embraces works in the three foremost languages, it is difficult to understand the need of such a repetition of the subject-matter. A wiser plan would have been to confine the text of each article to one of the three languages at the option of the contributor, by which means the danger of misunderstanding would be rendered much less, and the cost of publication decreased—a plan that has already been successfully carried out by several scientific periodicals.

Ointments and Oleates, Especially in Skin Diseases.
By JOHN V. SHOEMAKER, A.M., M.D. Second Edition. Philadelphia and London: F. A. Davis. 1890.

In this book, which forms No. 6 in the "Physician's and Student's Ready-reference Series," the author has added to his previous work on the oleates, a consideration of ointments, which occupies the first 207 of the 273 pages of reading-matter. After a short prelude on the general subject of ointments, the writer enters upon a detailed description of those officinal in the United States, French, German and Austrian pharmacopoeias, as well as those used extemporaneously, and, in addition, of those most used in Italy, Spain and in the Spanish colonies. Numerous formularies have been added, with most generous indications for their use in the various skin affections. In the latter part of the book the writer's well-known views with regard to the oleates and their applicability are repeated in this second edition, together with some suggestions as to improved methods of preparation.

A System of Oral Surgery: Being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and Associate Parts. By JAMES E. GARRETTSON, A.M., M.D., D.D.S., President of the Medico-Chirurgical Hospital and Emeritus Professor of Oral and General Clinical Surgery in the Medico-Chirurgical College, etc. Illustrated with numerous wood-cuts and steel plates. Fifth edition, thoroughly revised, with additions. Large octavo, pp. 1,364. Philadelphia: J. B. Lippincott Company. 1890.

This work has been the standard dental surgery for nearly a generation. The fifth edition has been improved by condensing the older material and by the addition of much new matter. The chapter on diagnosis is particularly worthy of careful and repeated reading. Every subject relating to dentistry is so accurately and fully treated that reading the work with a critical intent one finds nothing which could be improved.

W. H. E.

—A celebrated actress was married, and accouched six months after the wedding. Her husband, all indignant, went to consult a physician in regard to the affair, demanding a reason for this precocity. "Be assured," said the doctor, "that this affair is all right. The first children of actresses are often precocious, but the children that follow are not. Let that console you, old fellow."—*Cincinnati Lancet-Clinic.*

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THE SIGNIFICANCE OF FEVER.—II.¹

THE UTILITY OF ANTIPYRETICS.

FEVER is a complex morbid state characterized by derangement of all the important functions of the body. Besides the hyperthermia, due to increased heat-production and disorder of the mechanism of heat-regulation and removal, which is the most obvious and noteworthy phenomenon, there are the well-known respiratory and cardiac symptoms, the loss of appetite and failure of digestion, the muscular prostration, the nervous (sensory, motor and vaso-motor) disturbances, the urinary derangements, the general impairment of nutrition, etc.

The word *antipyretic* is used as a synonym of the older word *febrifuge*, and denotes any agency, medicinal or otherwise, which lowers or suppresses the febrile heat with its attendant pathological phenomena. This is the ancient and lexicographical use of the word; it must, however, be recognized that this word is often used at the present day in a much more limited sense to signify an agent which abates the hyperthermia without to the same degree, if at all, modifying the other elements of the febrile syndrome.

It is obvious that the more completely a remedial agent meets all these elements, the better the antipyretic which it constitutes; and the most effective antipyretic is that which strikes at the cause of the fever, annihilating it, or rendering it inert. Thus, quinine in intermittent fever is the ideal antipyretic, for all the symptoms of the fever are made better under its influence, and it is a curative means; there can be little doubt that it is a poison to the specific microbe. Salicylate of soda is believed by some to have a similar action in rheumatic fever, though the effects are by no means so marked or so constant. Quinine has no such direct and specific action in septicæmia or in any of the other infectious fevers, falling to the level of antipyrin, acetanilid, kairin, thallin, and other antipyretics which combat morbid heat principally.

Antipyrin has been regarded as the typical antipy-

¹ Continued from page 331 of the Journal.

retic,² but its range of operation is limited. It lowers febrile heat chiefly by restraining thermogenesis, it also promotes heat-elimination, but does not restore heat-regulation (thermotaxis). It alleviates the nervous asthenic symptoms, is both analgesic and hypnotic; it brings down the pulse and steadies it; is not, however, toxic to the infectious agent, and does not shorten by a day the duration of the fever. In pneumonia, typhoid and other specific fevers, it keeps down the fever till the crisis appears, but does not hasten the crisis. Abundant testimonies to this effect have been adduced by the hospital internes of all lands; in many hospitals antipyrin is now only prescribed to allay nervous symptoms and to combat febrile heat when this seems attaining a dangerous height. Although it has been of late rendered probable that much of the old terror respecting the disorganized effect of hyperthermia on the organism was illusory, yet no one doubts that the long continuance of a high febrile heat amounting to hyperpyrexia is deleterious to the blood and tissues, and especially to the heart and blood-vessels, hence there is every interest in keeping the temperature of fever-patients within safe limits, though not absolutely at the normal figure.

What has been said of antipyrin is applicable to acetanilid, phenacetin, kairin and thallin. There is a general consent at the present day in the abandonment of the two last mentioned drugs. And there are certain drawbacks attending the use of antipyrin and acetanilid which make it necessary to use some caution in their administration. We believe that it has been shown that acetanilid (antifebrine) is quite as good and safe an antipyretic as antipyrin, though not, perhaps, quite as good an analgesic.

It is, of course, desirable to find antipyretics that favorably modify all the elements of the febrile syndrome, and especially such as remove the cause. Unfortunately, for most of the specific fevers, such antipyretics are yet to be discovered.

One great objection to the use of the "antipyretic agents of the aromatic series," as they have been called, is that they retard the exchanges and diminish both the liquids and the solids of the urine. What is affirmed of antipyrin is affirmed also of acetanilid, thallin, etc., that they diminish the excitability of the nervous centres which regulate the exchanges; they also lessen the respiratory power of the blood, destroying the oxyhaemoglobin (according to Brouardel and Loyer); they diminish the quantity of urine from twenty to forty per cent, also the quantity of solids in the urine (urea, urates, phosphates, chlorides, etc.) fully sixteen per cent. (A. Robin), so that their rôle as febrifuge medicines is very much compromised.

Another class of antipyretics facilitates heat-elimination. Alcohol and sweet spirits of nitre are supposed to act by dilating the cutaneous vessels and increasing radiation; others are powerful sudorifics (Dover's powder, antimonials, the warm bath). Statistical data are abundant to show the remedial virtues of hydrotherapy

² Vide MacAlister, *Lancet*, 1888.

in at least one of the specific fevers, typhoid fever,³ and they suggest the affirmation of Ziemssen, that of all the therapeutic methods which have been adopted for typhoid, hydrotherapy deserves to be put foremost. Ziemssen has described the action of the cold and lukewarm baths as follows: "The bath cools the blood of the feverish patient, at first at the periphery, and next, by the circulation of the cooled blood from the skin to the interior of the body, the internal organs are affected. The cooled blood has an immediate stimulant action on the depressed nerve centres, and this is regarded as the most valuable effect of the bath. The lowered vitality of the brain is raised, and from the refreshed centre extends a fresher stimulation of the nerves which preside over the circulation, the respiration, the digestive process, the locomotor apparatus, etc. The result is a quiet sleep, a clear sensorium, a refreshed look, easier movements, and a desire for food."

It is not known whether cold bathing has any restraining effect on thermogenesis. The opponents of the cold bath affirm that heat-production goes on unchecked and they point out the danger of internal congestions and hemorrhages from this forcing of the circulating blood from the periphery to the central parts.⁴ The advocates of hydrotherapy are not altogether oblivious of this danger, and counsel baths of moderate rather than of very low temperature. Almost all recognize the utility of lukewarm baths and of frequent cold sponging.

More elements of the febrile syndrome are favorably affected by refrigerant methods than by any other kind of treatment. The digestive functions are improved; there is increased desire for food and what is taken is better digested than before. Increased tone is given to the heart-muscle and to the blood-vessels, and the circulation becomes more normal. Deeper and more prolonged inspirations are taken; haematosis is better performed, and broncho-pulmonary congestions combated. The secretions are augmented; urine, saliva, perspiration; the tongue becomes moist, the eye clear, the surface soft.⁵

On the Continent, Brand and Liebermeister have been among the most earnest partisans of the cold-bath treatment of continued fevers. This method does not lay claim to effecting complete disappearance of the fever, or bringing back the temperature constantly to the normal. Such result, as Liebermeister says, would be impracticable, and certainly impossible in grave cases. What this method of treatment does aim to do "is to transform a grave continuous fever into a much less dangerous remittent or intermittent. We are to endeavor less to combat the exacerbations than to render the remissions more marked and of longer duration."

Doubtless, in the treatment of continuous fevers, the whole matter of the utility of cold baths (which are inconvenient, if not absolute impracticable, in private practice) is still *sub judice*. Senator, in summing up

³ Memoirs of Küchenmeister, Naunyn, Sidney Copland, and others.

⁴ Soc. Méd. des Hôp., 1885, 1886.

⁵ Antipyresis and Antipyretics, Von Ziemssen, 1889.

the results of the cold-water treatment in those hospitals of Berlin where the method has been rigorously carried out, and comparing from the point of view of mortality these results with those obtained by himself in the hospital Augusta, where no exclusive treatment is enforced, has shown that the mortality has been greater under the cold-water treatment. At the meeting of the Society of Internal Medicine held in Berlin, January 18, 1886, Leyden affirmed that the advantages claimed for the rigid antipyretic treatment of typhoid fever were largely illusory. Frantz also stated that the results of hospital trials which had come under his observation were against the free use of cold baths in continued fevers.

Of course, the error of relying exclusively on statistics has been shown again and again, and if this were the only or the principal criterion, therapeutics could never advance. It would be foolish to gainsay all the facts alleged by the German hydrotherapists and by Glenard of Lyons, and it must be remembered that epidemics are of varying severity.

In medio tutissimum ibis — there is a mean which can be followed with safety. No one questions the usefulness, in certain cases, of warm baths (91° F. to 95° F.) and these may, as Liebermeister suggests, be gradually cooled down twenty degrees or more by the addition of cold water; with careful watching of the patient, no harm and certainly much advantage will result from the occasional use of these baths. In private practice the wet-pack is of more easy application, and it is certainly less fatiguing to the patient, though its effects are much less marked and less lasting than those of the cold bath, and the same may be said of cold sponging.

Hospital statistics are now being gradually accumulated in New York in regard to the cold-bath treatment of typhoid, and there is a prospect that we may some time have some home figures which may enable us to arrive at an approximate estimate of the positive practical value of such statistics.

OXALURIA AND NERVOUS STATES.

GOLDING BIRD was one of the first to insist on a definite train of nervous phenomena associated with the excretion of oxalic acid in the urine. He did not, however, attribute these symptoms to any special constitutional state; the word oxaluria was used by him to connote the congeries of symptoms commonly occurring with appreciable deposits of oxalic acid in the urine, due, as he believes, often to alimentary indiscretions and chronic dyspepsia; in some of his writings, he speaks of an *oxalic diathesis* comparable to the uric diathesis. Persons affected with this form of disease are, he says, generally remarkably depressed in spirits; they are emaciated, extremely nervous and painfully susceptible to external impressions, have tremblings of the limbs, with insomnia, often are hypochondriacal to an extreme degree; they are, in fact, types of neurasthenia, well-pronounced dyspeptic

symptoms are always complained of, and gastralgia is generally present. The urine is of a high specific gravity, and deposits abundance of oxalate of lime-crystals with triple phosphates. Among the occasional exciting causes, he enumerated child-bearing and over-lactation, venereal excesses and intemperance, injury to the constitution by syphilis and mercury. The affection is, however, especially an accompaniment of nervous dyspepsia.

Garrod, Furhbrengir and Ralfe also hold to the doctrine of an oxalic diathesis, while Lecorché and Esbach regard oxaluria as only a symptomatic and unimportant accompaniment of the nervous states with which it is found associated. The last named authorities affirm that oxalic acid always exists in the urine in minute quantities; and when it is present in relative excess, this is the result of the ingestion of food or medicine containing this salt, free or in combination.

Neidert¹ has offered a new contribution to the vexed question of oxaluria and nervous states connected therewith. It is still, he says, a matter of dispute whether oxaluria shall be regarded as a pathological entity, or whether it be simply a symptom of a pathological state. Neidert inclines to the view that it is a constitutional affection belonging to the same category as diabetes. According to several observations which he has made, diabetes in the parent sometimes entails oxaluria in the child.

The conclusions at which the writer has arrived are as follows:

An assemblage of nervous manifestations, of decidedly abnormal character, lasting for several years, may, under the influence of certain causes, undergo transformation more or less suddenly into a pathological state which is characterized by the appearance in the blood of oxalate of lime, and by the excretion of this salt in the urine. In these cases, we have to do, not with an accumulation, the result of diet, but with an abnormal and continuous production of oxalic acid at the expense of the tissues of the organism. We have here a quite particular individual predisposition, an alteration of the nervous system and very likely of the cerebrum; the result of this affection of innervation is a retardation of nutrition, or, it may be, a qualitative abnormality in the transformation of the sugar circulating in the economy (Cantani).

The abuse of gaseous waters and particularly of Seltzer waters, according to Cantani, has a great importance on the etiology of oxaluria. Heredit has also a considerable part, and Cantani's observations agree with those of Neidert, that diabetes may alternate with oxaluria, or coexist with it.

Oxaluria is a disease *sui generis*, which, by itself and the accidents which it occasions, has a character of sufficient gravity to cause death.

Considering our ignorance of the pathogeny of this affection, it is difficult to institute any rational therapeutics; but as the nervous and gastric troubles are the initial and essential symptoms, we should first combat these. The ingestion of easily digestible azotized

¹ Münch. Medizin. Woch., August 26, 1890.

aliments will enable one to guard against the evils of abnormal oxidation processes, and spare the nitrogenized tissues. Warm baths with frictions and cold effusions during the bath, have rendered incontestable service against the nervous manifestations, and especially the trembling of the extremities and the insomnia; Faradization has also given good results.

Medicines of every kind have always failed; Cantani, nevertheless, recommends hydrochloric acid, peptin, the carbonated alkalies, and especially, bicarbonate of soda and lithia. Neidert affirms that he has obtained the best results from a rigorous nitrogenous regimen similar to the diabetic regimen.

MEDICAL NOTES.

— After July 1, 1893, the Colorado State Board of Health will accept the diplomas of no school which does not have an obligatory three years' course of instruction of five months each in three different years.

— *Deaths in the Profession Abroad.* — Professor Wenzel Gruber died of apoplexy at Vienna, aged seventy-six. He was an Austrian by birth, but had been Professor of Anatomy at St. Petersburg for nearly forty years, during which time he published some five hundred papers, chiefly on anatomical subjects. Some years ago he was named an Imperial Councillor of State by the Czar. Among other eminent foreign members of the profession who have recently died are Dr. G. C. H. Lehmann, Professor of Ophthalmology in the University of Copenhagen, at the age of seventy-five; and Dr. Ernest Hardy, head of the chemical laboratory of the Paris Academy of Medicine, well-known for his researches in physiological and pathological chemistry. He was sixty-three years of age.

— A firm of chemists in Birmingham, England, place upon all poisons sold by them, directions as to the antidote which should be applied in cases where the poisons are taken accidentally or with suicidal intent. An English chemical journal gives an instance where this precaution was the means of saving life. A correspondent of the *Medical Record* suggests that the simplest and nearest-at-hand antidotes should be given on the label, and these might be used by the family or friends while waiting for a doctor. "Scraping the ceiling with the fire-shovel," or swallowing the "white of egg," may save a valuable life in an emergency if thought of in time.

BOSTON.

— The managers of the Children's Hospital, yesterday, invited the friends of the institution to inspect the new wing, which has just been completed. Heretofore the west wing has been used for both medical and surgical cases. The addition will make it possible to use the old building for surgical cases only.

— The addition to the Carney Hospital, which is now nearly finished, will cost about \$140,000, of

which amount \$50,000 has already been paid. In order to decrease this debt and help to place the hospital on a sure and solid foundation on opening its new wing, a grand festival will be held in Music Hall on Wednesday, October 29th. One of the greatest needs of the hospital at present is the endowment of free beds, which are such a source of revenue to the other large hospitals of the city. At present the Carney has but five which are endowed, although it admits a large number of free patients. The management will give the proprietorship of a free bed to any corporation or association for \$250 a year, or to an individual subscriber for \$100 a year. As this is the only general hospital in the city which will take certain chronic forms of disease, its appeal for help should meet with a ready response.

— In answer to a letter in the *Boston Post*, the president of the Boston Young Men's Christian Union says that in 1875 there was organized a charity in Boston then and since known as the "Country Week." This charity provides vacation visits in the country, on farms and at other homes, for the poor and worthy children (including some of the mothers) of this city. We believe the Boston "Country Week" to be the first organization of the kind established in this country, New York and other prominent cities having since adopted similar plans for their poor children during the summer months. The "Country Week," which has for so many years been in charge of the Boston Young Men's Christian Union, has always received the hearty support of a generous public. The work has increased year by year, and the sixteenth season, which has just closed, has provided these country vacations to a larger number than in any previous year, the number thus favored this season being 3,253.

NEW YORK.

— The complete returns of the census of the city made by the police, show the population to be 1,710,715, as against 1,513,501 the number arrived at in the Federal Census in June.

— Dr. Henry G. McGonegal, an abortionist, who was in trouble before, has been sentenced to fourteen years hard labor in State Prison, for causing the death of a young woman upon whom he operated. In pronouncing sentence the judge stated that but for the age of the culprit, which is seventy years, he would have imposed the full penalty of the law, twenty years.

— The Monmouth Memorial Association has bought and taken possession of a hotel building at Long Branch which provides that place with a much-needed and very well-appointed hospital. A large proportion of the purchase money was raised through the earnest efforts of Dr. S. H. Hunt, President of the Association.

— In consequence of the prevalence of diphtheria in a certain district of Paterson, N. J., the Board of Health of that place has recommended the closing of the public school in that quarter and advised the residents to refrain from attending church, Sunday-school

or other public places for the next month. During September there were 83 cases of diphtheria and 14 deaths, and up to the 15th of October, 34 cases and nine deaths in Paterson. Seventy-one per cent. of all the cases have been in the district referred to, where the sewerage is said to be very poor.

— Dr. C. F. MacDonald has made an official report to the Governor of the execution by electricity of Wm. Kemmler in, August, in the course of which he says: "Notwithstanding the wide publication of the execution of Kemmler, and the efforts which have been made to proclaim it a failure, and to invest it with an air of repulsion, brutality and horror, it is confidently believed that, when all the facts in the case are rightly understood, the first execution by electricity will be regarded as a successful experiment, and that in time, due credit will be accorded to those whose duty required them to act as principals in carrying out the law, the establishment of which is destined, in the not distant future, to be regarded as a step in the direction of a higher civilization."

"As might have been expected, at the first execution by this method, there were certain defects of a minor character in the arrangement and operation of the apparatus which those in charge of the next execution, guided by present experience, will be able to avoid or overcome. But, in spite of these defects, the important fact remains that unconsciousness was instantly effected, and death was painless. When this is understood, together with the additional fact that less than four minutes elapsed from the time the first contact of the current was made to the time the last one was discontinued, and Kemmler was absolutely dead, it will be conceded by all fair-minded persons that the object to be attained, as far as relates to the individual, in the execution of a criminal, namely, sudden and painless death, was fully realized in Kemmler's case; and had the first contact of the current been maintained for full twenty seconds, as first suggested, in all probability there would have been no reflex muscular movement after it was broken, and no unfavorable criticism of the result could then have truthfully been made. The reflex movements referred to were similar to those which have occasionally been observed, for a short time, in animals experimentally killed by electricity, after the current was too quickly interrupted; the animal, however, not recovering consciousness or life. Hence they may properly be regarded as involuntary muscular movements of a reflex character, following the interruption of the current, and in no sense a resumption of normal respiration, however much they may appear to be so to a superficial observer, or to one not familiar with the phenomena in animals above referred to. These movements are as nothing compared with those usually exhibited by animals suddenly decapitated and which usually continue for some seconds, or even minutes, etc."

In conclusion, Dr. MacDonald makes a number of suggestions for the future better regulation of execution by electricity.

Miscellany.

NEW YORK PASTEUR INSTITUTE.

THE Director of the New York Pasteur Institute, Dr. Paul Gibier, informs us that since the opening of this Institute, February 18, 1890, 610 persons, having been bitten by dogs or cats, have come to be treated. These patients may be divided into two categories:

(1) For 480 of these persons it was demonstrated that the animals which attacked them were not mad. Consequently the patients were sent back after having had their wounds attended, during the proper length of time, when it was necessary. Of this series 400 patients were consulted or treated gratis.

(2) In 130 cases the anti-hydrophobic treatment was applied, hydrophobia having been demonstrated by veterinary examination of the animals which inflicted bites or by the inoculation in the laboratory, and in many cases by the death of some other persons or animals bitten by the same dogs. All these persons are, to day enjoying good health. In 80 cases the patients received the treatment free of charge.

64 from New York.	1 from Maryland.
12 " New Jersey.	1 " Maine.
12 " Massachusetts.	1 " Kentucky.
8 " Connecticut.	1 " Ohio.
9 " Rhode Island.	1 " Arizona.
9 " Missouri.	1 " Iowa.
3 " North Carolina.	1 " Nebraska.
3 " Pennsylvania.	1 " Arkansas.
2 " New Hampshire.	1 " Louisiana.
2 " Georgia.	1 " Ontario (Can.)
2 " Texas.	

Correspondence.

THE MEDICAL DEPARTMENT OF THE UNION PACIFIC RAILWAY.

DENVER, COLO., September 22, 1890.

MR. EDITOR: — In your letter of August 29th, you spoke of the aid rendered to the injured in railroad disasters in the East, as shown at the two wrecks near Boston, namely, at the Bussey Bridge and at Quincy, Mass., and ask how these matters are handled in the West. In reply I have to state the following:

All the large railway corporations of the West have medical departments organized to a greater or less degree of completeness according to their necessities. It is the policy of some railway systems to care only for their injured employees and passengers at their own expense; while others, on account of the barren and unpopulated country through which their lines extend, assess their employees a small sum, generally forty or fifty cents a month, and, with an organized medical department, take care of their employees in sickness as well as when injured. In case of accident along such systems as the latter, the same organized corps of physicians care for the injured passengers in a wreck, the expense of doing this being borne entirely by the railway company.

The medical department of the Union Pacific Railway may be taken as a type of the medical department of a western railway system. This system extends from the Missouri River and a point near the Gulf of Mexico in a northwesterly direction to the Pacific Ocean.

It is thus called upon to care for the sick and injured employees and passengers in thickly settled regions, supplied with hospitals and doctors, and also upon the barren plains.

Though the scope of the medical department is much larger in caring for the sick and injured employees of the Company, I will only describe that portion of it which pertains to caring for the injured in a wreck.

The head of the medical department is the chief surgeon. His authority extends over the entire system. He selects and appoints his own assistants in the large towns and cities. They are called division surgeons, and their authority extends over a certain number of miles of the road adjacent to their cities, which is called a division. In the small towns and villages in each division are appointed other surgeons, who are called assistant or local surgeons. Thus the railroad company has an organized corps of surgeons, in which the assistant surgeons report to the division surgeons, and the division surgeons report to the chief surgeon.

Circulars are issued notifying the railroad employees who the company surgeons are, and to enable the surgeons to be readily found by the employees of a wrecked train, and to have the information close at hand. The time card of each railroad division contains the names of all the company surgeons of that division, with the towns in which they live, and the street and number of their offices and residences, and the telephone numbers if they have one.

In case of an accident to an employee, the nearest company surgeon attends the case alone. In case of a large wreck with many injured persons, the nearest company surgeon calls upon all good surgeons that he can find in his town and neighborhood, and wires his division surgeon for assistance. The division surgeon orders the neighboring company surgeons to the scene of the wreck, and with a sufficiently large staff of surgeons from his own city, and with surgical supplies goes to the wreck himself. Of course the various assistant superintendents and superintendents co-operate with the nearest local surgeon and with the division surgeon in securing aid. The chief surgeon acts as division surgeon in his own city and in cases where a railroad disaster occurs on other divisions, he also is sent for by the division surgeon.

The authority of the company is thus vested in one of its representatives. The assistant surgeon being in charge of everything until the arrival of the division surgeon, who, in turn, yields to the chief surgeon in cases where this official is sent for.

STRETCHERS.

In all the suitable small towns along the lines of the system are kept railroad stretchers of the style invented by the writer, and of which sketches are appended. This stretcher consists of three parts, A, B and C.



Central part (B), with handles extended.



Stretcher complete, ready for use.



Stretcher packed.

These enable the injured employee to be carried with the least suffering to the nearest hospital. They are, of course, supplied with mattress and blankets, and, as it is often necessary to move an injured employee many miles to the nearest hospital, it will be readily seen that the spring carriage (C) is of the greatest advantage.

In the large towns or cities where trains would be fitted

out to go to a railroad disaster, there is in or near the depot a medical department supply-room in which are kept ready for immediate use mattresses, blankets, pillows, sheets, pillow slips and folding boards. These boards are of the following kind: Each folding board consists of two pine boards six feet six inches long and fifteen inches wide, these are hinged together with three large, strong strap hinges so they will open and shut like a backgammon board. When not in use they are folded up and stowed away. When in use they are opened out, laid on the backs of the seats in the passenger coaches, and by the means of the mattresses, blankets and pillows, with the sheets and pillow slips, comfortable beds for the injured can be made up in the passenger coaches while the train is running to the scene of the wreck.

WRECKING CAR SURGICAL SUPPLY BOX.

When a surgeon is hurriedly called to a wreck, it is impossible for him to gather up in a hurry all that he will need to care for the injured when he reaches them. To obviate these omissions the wants of our assistant surgeons have been anticipated, and all our division surgeons and most important assistant surgeons have been furnished with what we call a wrecking car surgical supply box, of which a ground floor plan and a list of contents is given. The box looks much like a small carpenter's tool chest, and the inside is economically divided up for what is here stated:

UNION PACIFIC MEDICAL DEPARTMENT. WRECKING CAR SURGICAL SUPPLY BOX.

Contents and Their Uses.

1. Splint wood. For broken bones and supporting injured joints.
2. Saw. For cutting splint wood into desired shape.
3. Shears. For cutting up the seam of a coat sleeve or pants leg to get at injured limb.
4. Cotton wadding and Lister gauze. To be used for padding, or when soaked in the phenyle solution, for dressing wounds.
5. Bandages. Narrow, for head and fingers; medium, for arm and leg; wide, for thigh and body.
6. Sponges. For washing wounds, or for tucking into cone made with a towel, for giving ether.
7. Cosmolene. For burns and scalds.
8. Cotton cloth. For applying cosmolene.
9. Towels. For ordinary use, but chiefly for rolling into cone for giving ether.
10. Nylle bone. For assorted sutures.
11. Brand. For stimulation.
12. Ether. For producing anesthesia as needed.
13. Rubber tubing. For controlling hemorrhage.
14. Hoffman's anodyne. As a stimulant for women; use as directed on bottle.
15. Morphine tablets. One-eighth of a grain for pain; give as directed on bottle.
16. Phenyle. Add a teaspoonful to a basin of very warm water, and use for washing wounds, or soaking dressing before applying.
17. Adhesive plaster. Use as a chest swathe for broken ribs, or wrap up as needed.
18. Extract of blades. To fasten into handle if blade breaks.
19. Perfected tubing. For draining wounds.
20. Wash basins.
21. Spoons.
22. Pins.

This box is to be kept in the station, in care of the agent, subject to the orders of the assistant surgeon, and its contents are not to be used by assistant surgeons for dressing ordinary wounds. It is to be considered what it is planned for: a surgical supply box in cases of wrecks.

When the box needs refilling, return to

O. J. PFEIFFER, Chief Surgeon.

Room "A," Union Depot, Denver, Col.

The wrecks upon a large western railway system may occur in thickly settled localities, or upon desert plains which are devoid of any towns, except those made necessary by the division terminals of the railroad as homes for the employees.

Trains which run through the barren districts are transcontinental, and are, therefore, supplied with Pullman sleeping cars, or second-class and excursion sleepers. These are available as hospital cars in case of a wreck. In case of a freight wreck a caboose can generally be used as a place in which to care for the injured train men.

When a railroad disaster occurs in settled localities the nearest company surgeon, with his neighboring assistants, his stretcher and surgical supply box, is soon on the ground, and very soon after, his division surgeon comes to his aid with a hospital car rapidly improvised by means of supplies that are immediately at hand.

It is, therefore, seen that the surgeon located in an isolated town has at hand the means for assisting the injured, and the division surgeon in the nearest large town is always equipped to go to the aid of the assistant surgeon at the shortest notice.

A railroad surgeon is always expected to be where he can be reached, and in case of his absence, he is required to have a suitable substitute in his place who can be found without fail.

In case of wreck near Denver, for example, information comes of its nature, and the number of severely injured persons, say twenty. The surgeon in charge of this division is called by telephone, he telephones for his assistants (of whom he has a certain number with whom it is arranged that they are to be subject to call at any time) to report at once to the station with their satchels and supplies and instruments. Meanwhile the wrecking train (a train which is always kept ready by railroad companies for clearing the track in case of wrecks) is backed into

the station. To this, by telephone instructions from the surgeon in charge, have been attached two or three passenger coaches. Into these are loaded from the supply-room seventeen folding boards, and a corresponding amount of bedding, two surgical supply boxes, and three of the portable railroad stretchers.

At the wreck a supply of cold water is found in the water coolers of the cars, and hot water is obtained from the engine. While proceeding to the wreck, the boards and bedding are made up into comfortable beds, and fires are built in the stoves; when the wreck is reached, the hospital cars are ready for the injured who are brought into the cars by means of the portable stretchers, which finally are used as beds for the three most seriously injured, the jar of moving the latter being lessened by the spring supports upon which the stretchers are made to rest. The hospital cars when loaded are then slowly pulled back to Denver. On the way back the names, addresses and injuries are noted upon prepared blanks; ambulances and carriages are wired for to meet the train at the station to take to their homes such as can be taken there, while the remainder are run in the hospital cars as near as possible to the railway hospital, from which they are transferred to the hospital beds.

Yours very truly,
O. J. PEIFFER, M.D., Chief Surgeon, Union Pac. System.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 11, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	613	233	16.00	12.96	3.84	6.40	2.24
Chicago	1,100,000	307	106	22.44	9.57	7.59	4.62	6.95
Philadelphia	1,061,777	—	—	—	—	—	—	—
Brooklyn	852,467	339	139	15.95	13.05	5.22	4.35	1.45
St. Louis	550,000	144	51	15.18	8.97	5.52	6.90	1.38
Baltimore	500,343	168	60	14.40	10.20	4.20	1.20	6.00
Boston	446,507	153	50	9.75	14.30	2.60	4.55	1.30
Cincinnati	325,000	104	40	18.24	9.60	11.52	1.92	4.80
New Orleans	260,000	128	40	21.84	15.60	5.46	8.58	—
Pittsburgh	210,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	108	38	22.08	15.64	2.76	7.36	6.44
Nashville	68,113	29	—	15.40	26.35	—	11.53	3.85
Charleston	60,145	31	10	25.84	9.69	—	—	12.92
Portland	45,000	3	1	33.33	—	—	—	—
Worcester	84,536	16	3	18.75	31.25	6.25	6.25	6.25
Lowell	77,645	33	18	21.21	6.06	5.03	15.15	3.03
Fall River	74,351	33	13	36.36	12.12	9.09	18.18	6.06
Cambridge	69,837	17	7	17.64	29.40	—	17.64	—
Lynn	55,684	18	8	27.77	5.55	11.11	11.11	—
Lawrence	44,559	26	10	23.10	3.85	15.40	3.85	—
Springfield	44,164	14	5	35.70	7.14	—	21.42	—
New Bedford	40,705	7	2	28.56	—	—	28.56	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salisbury	30,173	21	12	23.80	4.76	4.76	15.04	—
Chester	27,850	10	6	10.00	20.00	—	10.00	—
Haverhill	27,322	9	6	22.22	11.11	22.22	—	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	22,389	7	1	—	28.56	—	—	—
Newton	24,375	4	1	25.00	25.00	—	25.00	—
Malden	22,084	—	1	—	16.66	—	—	—
Fitchburg	22,007	9	4	11.11	—	—	11.11	—
Gloucester	21,282	—	—	—	—	—	—	—
Waltham	18,523	2	0	—	50.00	—	—	—
Pittsfield	17,232	—	1	—	—	—	—	—
Quincy	16,711	4	0	—	25.00	—	—	—
Northampton	14,401	—	—	—	—	—	—	—
Newburyport	13,914	6	1	—	33.33	—	—	—
Woburn	13,491	—	—	—	—	—	—	—

Deaths reported 2,372; under five years of age 895: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 421; consumption 295, acute lung diseases 203, diarrhoeal diseases 142, diphtheria and croup 120, typhoid fever 75, whooping-cough 24, malarial fever 22, scarlet fever 13, cerebro-spinal meningitis 13, periperal fever 4, erysipelas 3.

From whooping-cough, New York 11, Chicago and Brooklyn 4 each, St. Louis, Baltimore, New Orleans, Washington and Fort-

land 1 each. From malarial fever, New Orleans 8, Brooklyn and Charleston 4 each, Baltimore 3, New York, Fall River and Springfield 1 each. From scarlet fever, Brooklyn 6, New York and Chicago 3 each, St. Louis, Baltimore and Lawrence 1 each. From cerebro-spinal meningitis, Washington 5, New York 3, Chicago 2, Brooklyn, Boston and Lynn 1 each. From periperal fever, Chicago 2, Brooklyn and Springfield 1 each. From erysipelas, New York, Boston and New Orleans 1 each.

The meteorological record for the week ending Oct. 11, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	Duration Hrs. & Min.	Amount in Inches.
Saturday, Oct. 11, 1890.														
Sunday...	5	29.74	61.0	70.0	56.0	76	69	60.0	W.	12	4	P.	C.	
Monday...	6	29.79	54.0	60.0	48.0	63	69	66.0	N. W.	9	14	O.	C.	0.26
Tuesday...	7	29.95	47.0	50.0	45.0	73	86	79.0	N.E.	18	12	O.	Lt. R.	0.15
Wednesday...	8	30.07	50.0	53.0	47.0	93	80	87.0	N.W.	7	7	Lt. M.	O.	
Thursday...	9	30.22	54.0	56.0	45.0	78	68	73.0	N.W.	9	5	S.	O.	
Friday...	10	30.11	54.0	63.0	44.0	79	88	84.0	S.W.	4	11	H.	R.	?
Saturday, 11	29.88	56.0	63.0	61.0	77	76	76.0	N.W.	N.W.	10	11	O.	C.	0.04
Mean for Week.														

* O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 11, 1890, TO OCTOBER 17, 1890.

By direction of the Acting Secretary of War, the retirement from active service on October 12, 1890, by operation of law, of Captain ANDREW V. CHERBOURNIER, medical storekeeper, under the provisions of the act of Congress, approved June 30, 1882, is announced. S. O. 240, Par. 11, A. G. O., Washington, D. C., October 13, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 18, 1890.

GEORGE A. BRIGHT, surgeon, detached from temporary duty at the Naval Academy and placed on waiting orders.

J. G. ATRIES, surgeon, detached from temporary duty at the Naval Academy and placed on waiting orders.

GEORGE P. LUMSDEN, passed assistant surgeon, detached from U. S. S. "Boston" and granted three months' leave.

E. W. ANZAL, past assistant surgeon, detached from the Naval Academy and ordered to U. S. S. "Boston."

HOWARD SMITH, surgeon, ordered to appear before the Retiring Board at Mare Island, Cal.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, October 27th, at the Medical Library, 19 Boylston Place, at 8 o'clock p. m.

Papers: Dr. A. T. Cabot, "The Non-operative Treatment of Enlarged Prostate." Dr. R. W. Lovett, "Acute Circumscribed Edema, with a Report of Three Cases Affecting the Hand." G. G. SEARS, M.D., *Secretary.*

SUFFOLK DISTRICT MEDICAL SOCIETY.—The stated meeting will be held at 19 Boylston Place on Saturday, October 25, 1890, at 8 p. m.

Papers: Dr. G. H. Monks, "An Operation for the Correction of the Deformity Due to Prominent Ears." Mr. Edward Atkinson, "The Application of Heat as a Factor in Nutrition" (commonly called cooking). Illustrated by examples.

Incidental Business: Choice of a committee of five to prepare a list of candidates for officers of the Society.

Supper after the meeting.

JAMES J. MINOT, *Secretary.*

DEATH.

Died in Amherst, Mass., October 16, 1890, Israel Houston Tayler, M.M.S.S., aged seventy-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Preventive Inoculation. By Frank S. Billings, M.D. Reprint. 1890.

The Use of Rhus Toxicodendron. By John Aude, M.D., Philadelphia. Reprint. 1890.

Arsenite of Copper—The Results of Collective Investigation. By John Aude, M.D., Philadelphia.

Clinical Reports on Arsenite of Copper. By John Aude, M.D., Philadelphia. Reprint. 1889.

Biennial Report of the Officers of the Vermont Asylum for the Insane for the Period ending July 31, 1890.

Acute Myelitis Preceded by Acute Optic Neuritis. By J. T. Eskridge, M.D., Denver, Col. Reprint. 1890.

A Criticism of Willett's Operation for Talipes Calcaneus. By A. B. Judson, M.D., New York. Reprint. 1890.

On the Treatment of Eczema in Elderly People. By L. Dunstan Bulley, A.M., M.D., New York. Reprint. 1890.

The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity. By A. B. Judson, M.D., New York. Reprint. 1890.

Some Points in the Diagnosis of Certain Simulated Mental and Nervous Diseases. By J. T. Eskridge, M.D., Denver, Col. Reprint. 1890.

Transactions of the Medical Society of the State of Pennsylvania at its Fortieth Annual Session, held at Pittsburgh, 1889-90. Volume XXI.

I. The Prevention of the Short Leg of Hip Disease. II. The After-Treatment of Hip Disease. By A. B. Judson, M.D., New York. Reprint. 1889.

Is there a Fundamental Difference between the Contraction of the Heart and Ordinary Striated Muscle? By Thomas J. Mayes, M.D., Philadelphia. Reprint. 1890.

Address Delivered before the First Graduating Class of the Women's Training School for Nurses in Milwaukee, September 4, 1890. By U. O. B. Wingate, M.D., Milwaukee.

A Case of Brain Tumor (Angioma Cavernosum), Causing Spastic Paralysis and Attacks of Tonic Spasms: Operation. By L. Bremer, M.D., and N. B. Carson, M.D., of St. Louis, Mo. 1890.

Comparison between Perineal and Suprapubic Cystotomy, with Report of Cases. By A. Vander Veer, M.D., Professor of Didactic, Abdominal and Clinical Surgery, Albany Medical College. Reprint. 1890.

Official Register of Physicians of Minnesota, Containing the Names, Residences and College of Graduation of all Physicians and Surgeons duly Licensed to Practice in Minnesota. Issued by the State Medical Examining Board. 1890.

The Medico-Legal Aspect of Abdominal Section, and "She Thought it was her Change of Life." Two papers by A. Vander Veer, M.D., Professor of Didactic, Abdominal and Clinical Surgery, Albany Medical College. Reprint. 1890.

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DaCosta, M.D., LL.D., etc. Illustrated with engravings on wood. Seventh edition revised. Philadelphia: J. B. Lippincott Co. 1890.

Sketches of Physicians in Hartford, in 1820, and Reminiscences. By George Sumner, M.D.; and in 1837, by Gordon W. Russell, M.D., being papers read before the Hartford Medical Society January 1, 1848, and March 5, 1888. Published by permission of the Society. 1890.

Epilepsy: Its Pathology and Treatment. Being an essay to which was awarded a prize of four thousand francs by the Académie Royale de Médecine de Belgique, December 31, 1890. By Hobart Amory Hare, M.D. (Univ. Penn.), B.Sc., Clinical Professor of the Diseases of Children, and Demonstrator of Therapeutics in the University of Pennsylvania, etc., Philadelphia and London. F. A. Davis. 1890.

Original Articles.**ACUTE CIRCUMSCRIBED ÖDEMA.¹**
WITH A REPORT OF THREE CASES AFFECTING THE
HAND.

BY ROBERT W. LOVETT, M.D.

THE three cases which I have the pleasure of presenting to you this evening appeared at the Surgical Out-Patient Department of the Carney Hospital within a short space of time last summer. They evidently all belonged to the same class, but they were unlike anything that I had ever seen, and I was led to look up the subject, to find that they were examples of a well-recognized affection which has received very scant attention in the text-books or in general medical literature.

These cases were characterized by an acute and rapid swelling of one hand and forearm which began without known cause and reached an enormous size without being accompanied by pain, local heat, or constitutional disturbance.

The occurrence of local edemas in various parts of the body, under such conditions, has been recognized and described as angio-neurotic edema, acute circumscribed edema, pseudo-phlegmonous edema and similar names. It is perhaps most commonly seen as a localized and transient swelling of the lip, face, or larynx.

CASE I. Miss M. D., twenty-three years old, single, telegraph operator.

The patient appeared at the hospital March 25, 1890, with the left hand and forearm enormously swollen. The swelling had begun without known cause four days previously, coming on in the night, and had increased up to the time of her visit to the hospital. The previous history was good, there was no account of any rheumatism or other trouble, and up to within a few days the patient had been in excellent health. Just then she felt rather poorly and had lost her appetite.

The temperature was normal, and there was little or no pain in the affected arm. The appearance was that of an excessively severe cellulitis of the hand and arm, but there was no local heat, and the skin was pale on account of the tension caused by the swelling. There was no evidence of any lymphangitis, no tenderness, and the swelling was elastic to the touch. It involved the hand and forearm with a slight enlargement above the forearm. Dr. Temple, who saw the case with me, was unable to make any diagnosis. On general principles a poultice was ordered and salicylate of soda in large doses, and the patient detecting the uncertainty regarding her case, did not return. I saw her October 13th, and obtained the history of the remainder of the attack. The swelling in the left hand subsided gradually without new symptoms, lasting about four weeks, but before that hand was well, the right hand and arm began to swell in a similar manner and the second attack proved more persistent than the first, lasting six or eight weeks. When it subsided it left a certain amount of stiffness of the fingers, and a tendency to the formation of subcutaneous ecchymoses which are still seen from time to time. The general health is now excellent.

This case is of particular interest in its very long

¹ Read at the Boston Society for Medical Improvement, October 27, 1890.

duration as compared with most of the reported cases. It bears, of course, a close resemblance to rheumatism, but pain, local heat, and elevation of temperature, were absent, there was no exposure or history of rheumatism, and the affection was not controlled or affected by salicylate of soda.

CASE II. Thomas B., thirty-five years old, tailor.

July 28th, 1890, the patient appeared at the hospital with extreme swelling of the right hand and wrist which had begun suddenly in the night, thirty-six hours previously, and had been progressively increasing. The patient's health was excellent, and the swelling began without known cause, being at first accompanied by intolerable itching. There was no pain, tenderness, or local heat, the temperature was normal and the appetite good.

The swelling involved the hand and lower half of the forearm and terminated by a transverse abrupt line; the swelling was elastic and gave a sense of fluctuation. Poultices and salicylate of soda were again prescribed. On the following day the edema had advanced two or three inches up the forearm and again terminated in an abrupt line. The condition of the hand was the same; on the third day the swelling had extended above the elbow, but had diminished somewhat in the hand.

From this time on the edema gradually diminished and in a week from its onset it had entirely disappeared although the hand did not return to its full usefulness until three or four days later. There has been no repetition of the attack, and the patient is now in excellent health.

CASE III. John S., twenty-three years old, teamster.

July 30, 1890, this patient appeared with the right hand and forearm very much swollen. The attack had begun twenty-four hours previously without known cause, and was not accompanied by pain, heat, or febrile disturbance. No cause was known for the attack. The characteristics of the swelling were in every way like those just described in Case II. Both these cases were also seen by Dr. Sears, who did not consider them in any way rheumatic.

An advance was made in the treatment of this case in the use of a dry compression dressing instead of a poultice. Sheet wadding was applied to the arm and about wet pasteboard was firmly bandaged which dried and furnished firm, even compression. This case progressed faster than either of the others, and in four days from the beginning of the attack the swelling had practically disappeared. Since then the patient has remained in perfect health.

Medical literature contains a few articles relating to this affection, and reported cases are not very many. This cannot be due to the rarity of them so much as to the manifold appearances which they present, thus preventing their recognition as examples of one affection, and to the fact of the benign and transient character of the swelling which makes the affection seem of little account. It is to German writers that we are chiefly indebted for a recognition of this affection.

Its characteristics are simple; local edema of a transient character occurs in various parts of the body, without known cause in most instances. In some cases it is accompanied by slight digestive disturbances while in others no constitutional symptoms are present. It is not accompanied by high temperature which may, however, be present as a result of the digestive disturbance. Local heat is absent as well as all evidences

of lymphangitis. Pain is not a frequent symptom, but it may be present and is generally of a burning character. Urticular eruptions not infrequently are present at the same time as the swelling and itching, and burning are often complained of at the site of the swelling without objective signs. Abdominal colic is mentioned by some writers as a common accompaniment of local oedema, and is attributed to a similar oedema of the intestinal walls.² In the same way watery vomiting is accorded a very prominent place in the symptomatology by Strübing, who considers it due to a similar oedema of the gastric mucous membrane.³ Most reported cases, however, lack these two symptoms.

The swelling most frequently affects the lips, the eyelids, the face, the larynx, the hand, and the genitalia, and more infrequently, the legs.

Affecting the lower lip it is a fairly common affection, and ten years ago Dr. T. B. Curtis reported to this Society some twelve cases of this sort. At that time that affection was considered more a disease by itself than, as now, merely one manifestation of a tendency to local oedema.

Affecting the eyelids and face, the affection presents no points of special interest.

As an affection of the larynx, acute transient oedema becomes at once alarming and very dangerous. Cases have been reported where the swelling after affecting various parts of the face, disappeared to reappear in the larynx and cause intense dyspnoea.⁴ In other cases it was located primarily in the larynx.⁵ Fatal cases have been reported⁶, and in others tracheotomy has been necessary to save life.⁷

In other locations such as the hands and feet, the disease presents no other characteristics than those already named.

The affection may be very transient, lasting only as long as an urticaria; but more commonly it lasts for several days, and rarely may persist for weeks. When once it has appeared, it is likely to be seen again at some future time, and it may reappear at the original place or at some new part of the body. In certain cases it is very persistent, reappearing again and again at regular or irregular intervals, sometimes taking on a well-marked periodicity. Men and women are equally liable to the affection, and young adult life contributes the most cases. In children reported cases are few.

The cause of the attacks is generally obscure in the extreme, and very little is known of the etiology or pathology of the affection. Heredity plays a marked part in the causation of many cases, and Osler has related a very striking instance of this, where circumscribed oedema of various parts of the body has occurred in five generations of the same family. Quincke, Strübing and Falcone have noted in their cases the hereditary influence.

Malaria evidently causes certain cases as in the one reported by Matas,⁸ where a swelling of the lip occurred at noon every day to disappear late in the afternoon. This was controlled immediately by quinine.

² Couty : Gaz. Hebdom., 1876. Henoeh : Berl. Klin. Wechs., 1874.

³ Strübing : Zeitsch. f. Klin. Med., 1885, 9.

⁴ Riehl : Wien. Med. Preisse, 1888, 18.

⁵ Quincke : Monatsheft f. Fract. Dermatologie, 1882.

Landon : Berl. Klin. Wechs., 1880.

Cuntz : Archiv für Heilkunde, Bd. xv.

Grafe : Deutsch. Med. Wechs., 1886, II.

⁶ Osler : Am. Journ. Med. Sciences, 1886, p. 362.

⁷ Matas : New Orleans Med. Jour., October, 1887.

nine; but most often even when marked periodicity seems to govern the attacks, treatment by quinine is reported as being unsatisfactory.

In certain cases the attacks are associated with menstrual derangements, and in one case oedema of part of the face occurred after awakening from hypnotic sleep.⁹

In persons predisposed to the occurrence of the oedema, the slightest traumatism is often sufficient to locate an attack, and as in all diseases of obscure etiology many cases are attributed to taking cold.

Most of the reported cases have occurred in the spring and summer.

The question of the pathology of the affection is one of greater physiological than practical interest. As a matter of fact, nothing whatever is known as to the cause of the oedema; and the assumptions of the various authors to explain its occurrence are, for the most part, wholly gratuitous. It is said that paralysis of the vaso-constrictors or irritation of the vaso-dilators is present, which explains nothing, while other writers find an equally obscure explanation in assuming an affection of the trophic nerves.

Experiments have shown well enough the connection of abnormal nervous conditions and local oedema.

Localized oedema occurs in connection with diseases and injuries of the peripheral and central nervous system. In hemiplegia, neuralgia, etc., it is a symptom so well-known that it needs no comment. In the injuries to the nerves of the arm which result from pricking a nerve in bleeding, oedema of the parts supplied by that nerve is an occasional symptom,¹⁰ and the same effect was observed by Weir Mitchell in bullet injuries.¹¹

Experimentally it has been shown that certain irritations of the nerves are capable of producing local oedema. Morat¹² divided the auricular nerve of a rabbit and stimulated the central end, but failed to produce oedema. Ostromouf in a similar experiment after dividing the lingual nerve of a dog produced oedema of half of the tongue by a stimulation of the peripheral end of the nerve with the induced current¹³ and Vulpian in a similar experiment demonstrated that long continuance of the irritation and the oedema, resulted in changes in the finer arterioles.

It hardly seems worth while to take up your time any further in the discussion of this aspect of the subject further than to call your attention to the fact that there is abundance of clinical and experimental evidence¹⁴ to show the connection of local oedema and an abnormal condition of the nerves, and it is in some such vague explanation that one must take refuge in accounting for the occurrence of local oedema.

In the treatment of the affection there is little to be said. It is benign and self-limited and will get well of itself; and medication seems to have no effect upon its course. In fact, except in cases of oedema of the larynx, there is no real need of active measures. Iodide of potash, arsenic, salicylic acid and similar drugs have notoriously failed to have a good effect,

⁸ Lecher : Berl. Klin. Wechs., 1885, 40.

⁹ Malpighi : Gaz. des Hôp., 1840.

Roux : Gaz. des Hôp., p. 101.

Hamilton : Arch. gén. de Méd., 1888, II.

Coyard : Quoted by Castelli, loc. cit.

¹⁰ Leriche : Arch. de Chir.,

¹¹ Quoted by Castelli.

¹² Cohnheim : Vorlesungen über allg. Path. 2. Aufl. p. 125.

¹³ Ravadier, Boddaert, Helm and Rott.

Mongeot : Recherches sur quelques troubles conséc. aux affections des nerfs, 1861.

¹⁴ Matthieu and Weill : Arch. gén. de Méd., 1885, p. 171.

and generally quinine is unsatisfactory. No plan of treatment has been formulated. The recorded cases are merely a list of failures from a therapeutic point of view. Cases where constitutional disturbance has been present, and especially cases where the attacks recurred, have seemed to be relieved by general hygiene treatment.

In cases of edema of the hand or foot, compression by a Gamgee dressing or by a flannel bandage seems to hasten the disappearance of the swelling.

A list of the chief recorded cases and of the general bibliography is appended:

- Castelli (2 cases). Thèse du Lyon.
 Elliott, G. T. (1 case). Jour. Cut. and Ven. Dis., Vol VI, p. 19.
 Graham (1 case). Canada Pract., February, 1885, p. 33.
 Jamieson (1 case). Edin. Med. Jour., 1883.
 Mathieu and Weill (1 case). Thèse de Paris.
 Montrouge (4 cases). Méth. et Rem. et Gaz., February 9, 1878.
 Smith (4 cases). Med. News, March 23, 1889.
 Matas (1 case). N. O. Med. and Surg. Jour., October, 1887.
 Kiehl (4 cases). Lond. Med. Rec., December, 1887, and Wien. Med. Presse, 1888, II.
 Quincke (1 case). Monatsschr. f. Pract. Derm., 1882.
 Dubouquet Laborde (2 cases). Paris Méd., May 15, 1886.
 Johnston (1 case, child). Arch. f. Khde., VII, 126.
 Lewinsky (1 case). Berl. Klin. Wchaf., 1885, No. 34.
 Lacher (1 case). Berl. Klin. Wchaf., 1885, No. 40.
 Weiss (1 case). Wien. Med. Wchaf., 1882, 13.
 Strübing (3 cases). Zeitsch. f. Klin. Med., 1885, 9.
 Osler (1 family with several cases). Amer. Jour. Med. Sciences, 1888, p. 262.
 Curtis (several cases situated in lip). Boston Med. and Surg. Jour., 1880, II, 556.
 Dinkelader (series of cases). Ueber Acutes Oedem. Kiel, 1882.
 Falcone. Gazzetta Degli Ospitai, February 24, 1886.
 Matas. N. O. Med. Jour., October, 1887.
 Milton. Edin. Med. Jour., December, 1876.
 Rapin. Rev. Med. de la Suisse Romande, December 15, 1886.
 Verneuil-Potain. Arch. Gén. de Méd., 1885, p. 636.
 Cenan. La Loire Méd., December 15, 1886.
 Troisier. Prog. Méd., 1884, p. 3.
 Negre. Prog. Méd., 1884, p. 846.
 Chauvet. Séances du 8 Fév., 1884; Soc. Méd. des Hôpitaux.
 Castelli. Observations sur l'Etude des Oedèmes Aigus Chirurgicaux. Thèse, Lyon, 1886.
 Artus. Cont a l'Etude des Oedèmes d'Origine Nerveuse, Thèse de Paris, 1884.
 J. Weill. Cont a l'Etude Clin. des Oedèmes Périphériques, Paris, 1885.

FATAL CASE OF LEAD POISONING IN WHICH ATAXIA WAS THE PRINCIPAL SYMPTOM (PSEUDO-TABES).

BY G. L. WALTON, M.D.,

Instructor in Diseases of the Nervous System, Harvard University; Physician to the Neurological Department of the Massachusetts General Hospital.

A. B., fifty-four years of age, married, was seen in consultation with Dr. S. D. Presbrey, of Taunton, in January, 1890. He stated that three years ago he suffered from numbness in the hands which gradually passed away. Soon after he noticed numbness in the left foot which has persisted up to the present time, and has extended gradually up the leg and into the back. The numb feeling was at first accompanied by a prickling, which subsided. This symptom together with a staggering gait of gradual onset and progressive character constitute the chief complaint at present, excepting that he is rather easily tired, and has an unpleasant sensation in the head increased by walking, and when weary. He does not complain of absolute pain in the head or elsewhere, but of a slight tenderness in the calf. About a year ago he had an acute attack of stomach and bowel trouble lasting a week, accompanied by nausea. Otherwise than this there has been no vomiting and no colic. There has been no double-vision, no vertigo, no blurring of the sight

or other defect of vision, no bladder or rectal irregularity, no darting or other pains, no *crise-gastrique*. There has been no loss of power in the arms or hands, no wrist drop.

No history of cold or other exposure could be elicited; there was no specific history; and no history of any excess, of malaria or the use of tobacco or alcohol. The patient stated that he had always been of a nervous temperament, always sensitive to changes in the weather and to noises over his head. There had been, however, no special accession of trouble in this direction of late, nor any difficulty of devoting his mind to work or accomplishing his business, which was one requiring brain work alone (real estate and insurance). There have been no convulsions. Sexual power was lost four years ago.

Physical examination showed a tall, delicately built man in poor flesh. His gait was so unsteady as to require him to lay hold of objects at times to keep his balance, and he could not stand with the eyes closed and feet together. The tendon reflex was normal, there was no ankle clonus. The pupils were alike and reacted normally to light. The patient found it difficult to step up into a chair with the left foot, and could hardly do so with the right. There was a slight loss of tactile sensation in the left foot, and considerable loss of muscle sense, as evidenced by the fact that he could not tell with the eyes shut whether the great toe was moved up or down. There was some sensitiveness to pressure over the muscles of the calf of the leg, not particularly in the course of the nerves. The muscles were generally rather soft and small, but there was no atrophy of any particular muscle or group of muscles, nor any complete motor paralysis, but considerable general weakness, and marked incoordination. There was no objective loss of sensation discoverable excepting in the left foot. There was no sensitiveness of the back. The urine was found normal. The heart and lungs had been carefully examined by Dr. Presbrey and found normal.

It was decided as a result of this examination that no spinal disease existed, but that the symptoms were due probably in part to nervous prostration, in part to a low form of neuritis of unknown origin. He was put upon nux vomica and compound datura of chinona, exercise restricted, and warm bathing advised. A mild galvanic current was applied to the limbs.

I next saw him in about three weeks, when he reported that he had been better and worse, that riding and electricity made him worse. At times slight numbness has appeared in the fingers. He complains of drawing sensations up the legs and in the abdomen, not fixed in locality. The left calf is quite sensitive. There is a burning sensation in both feet. The sensation of the foot is found somewhat improved, otherwise physical examination reveals no special change. The pulse is 92, of fair character. Electrical treatment had been already discontinued by Dr. Presbrey, and no further change was advised.

Two months later I saw the patient again, and on going over the whole case carefully with him found that the commencement of the trouble occurred soon after moving from one house to another. It also appeared that another member of the family had complained at one time of a slight numbness in the fingers. These facts lead to a suspicion that some form of chronic poison might be at the bottom of the matter, either arsenic or lead. There was no blue line, wrist

drop, nor other typical lead symptom, no question of lead pipe or other known source of this poison, and in view of the fact that numbness and ataxia is more frequent in the neuritis of arsenic than of lead poisoning, the urine as well as specimens of wall paper, was first tested for arsenic by Mr. Thomas Farmer, with negative result. The patient was then put on five grains of iodide of potassium and the urine analyzed for lead after four days by the same chemist, who reported that the urine contained a very large quantity of lead. From this time the iodide was continued and bottled waters alone were used by the patient, and most exhaustive search was made by Dr. Presbrey for any source of lead in his surroundings. The only possible source discovered was a tin-lined copper kettle in which the hot water (which he had been in the habit of using freely) was heated.

Soon after commencing the iodide treatment, he reported that he was worse every day. He became unable to walk, and had to remain away from his office. This was at first considered favorable as showing elimination, though it forced a temporary cessation of the use of the iodide. The medicine was renewed later at intervals, and in still smaller doses, (three and two grains thrice daily), but the patient's condition grew steadily worse, during the intervals as well as during administration, examination of the urine (analyzed three weeks before death) showing decided decrease in quantity of lead.

Four months after the discovery of lead and commencement of the appropriate treatment, the patient was helpless, and death ensued shortly. There was no autopsy.

This case illustrates the importance of looking for lead in obscure nervous cases, even where none of the characteristic symptoms of that poison are present. This point has been exhaustively dwelt on by Dr. J. J. Putnam, to whose investigations are largely due our knowledge of the variations from given types in lead as well as other forms of poison. It is certainly to be borne in mind that wherever symptoms of neuritis appear, in the absence of such apparent cause as abuse of alcohol or tobacco, it cannot come amiss to search for mineral poison.

Axata is certainly an unusual symptom in lead-poisoning, and does not as yet appear in the textbooks, though it is mentioned under arsenic poisoning, for example by Gowers,¹ who calls attention to the similarity between the effects of arsenic and of alcohol, and divides arsenical cases into two classes, "first, a palsy of the muscles of the limbs, especially of the extensors of the hands and feet; and secondly a 'pseudo-tubes'—ataxia, with defective sensibility, especially in the muscles." He quotes in illustration of the second form the cases of Seeligmuller, and two reported by Dana, but states that ataxia is less frequent than muscular paralysis. Such cases as the one here reported show that ataxia should be mentioned, though among the less typical, as one of the symptoms of lead as well as of arsenic poison, and to further illustrate the fact already recognized, that loss of sensation may appear (though exceptionally) in this affection.

That this case is not unique is shown by the five cases of pseudo-tubes from lead which have been collected by Dr. Putnam,² three under his own observation.

¹ Diseases of the Nervous System, 1888, p. 1273. See also Dana, Brain, January, 1881.

² Boston Medical and Surgical Journal, December 2, 1887.

tion, one by Teissier,³ and one by Raymond.⁴ It is probable that future experience will show these cases to be less rare than they seem at present, as the diagnosis of the various forms of neuritis becomes more familiar.

With regard to the source of lead, Dr. Presbrey writes me that the kettle above alluded to, was examined by a chemist, Mr. George F. Chase, superintendent of the Taunton Water Works. He reported that the lining was gone except in the dome and cover, but that he kept the kettle filled with hot water for several hours; that he then evaporated the water, and in the residue found traces of lead.

Dr. Presbrey also writes that he suspects the coating of the galvanized-iron hot-water boilers might have contained lead, and that there might be lead solder within them. He, therefore, directed that water for cooking should not be taken from these boilers. Whether this suspicion be correct or not, the examination of the kettle alone would seem to show ample origin for the poison.

TWO UNUSUAL OBSTETRIC CASES.¹

BY H. F. VICKERY, M.D.,
Physician to Out-Patients, Massachusetts General Hospital; Instructor in Clinical Medicine, Harvard Medical School.

CASE OF FLESHY MOLE.

Mrs. F. H., age twenty-five, previously healthy and vigorous, was married October, 1888. The catamenia remained perfectly regular till the following July, nine months after marriage, when they ceased. Coincidentally, the mammary areola grew dark, the abdomen increased somewhat in size, and there was morning vomiting.

About one week before Christmas (fifth month) she suffered from backache without known imprudence; and then on Christmas day, came a sudden gush of one or two ounces of blood, repeated at irregular intervals for three weeks, but without chills, rise of temperature or other special symptoms. Her physician, Dr. S. B. Lynch of Boston, kept the patient in bed for a month, mainly as a matter of caution than from necessity. Then she resumed her usual occupations.

April 22d (nine months) labor pains set in, the os dilated, and a placental mass presented. The reporter, being summoned in consultation, was struck (as had also been the attending physician) by the small size of the abdomen, and the absence of the ordinary uterine enlargement above the pubes. On digital examination the presenting mass was felt and easily removed. The small uterus contracted well, with little loss of blood. On the following day, a careful pelvic examination under ether revealed nothing abnormal, save a shortening of the right broad ligament.

The specimen now presented to the Society was kindly examined by Dr. R. H. Fitz (whose exact description is unfortunately lost) and pronounced a fleshy mole. When fresh, it was the size of a large fig. No signs of a fetus could be detected. It seems probable that it perished in December, four months before the remnants of the placenta were extruded, and it is this long retention of the mole which seems especially interesting in the case.

¹ Read by invitation before the Obstetrical Society of Boston, June 14, 1890.

² Gaz. Med. de Lyon, 1881-82.

³ L'Intoxication Saturnine, Renant.

A MUCH-ENDURING FETUS.

Mrs. J. L., age thirty-five, by her first marriage had two still-born children at seven and nine months respectively. Since her second marriage, which took place five years ago, she has had two living children, one three years old and one eight months old. This younger child was not weaned till April, 1890, two months before the reporter was called in consultation. It is from the family physician, Dr. S. B. Lynch, that most of the history of the case has been obtained.

In November, 1889, Mrs. L. had a profuse menstrual flow, her baby being about one month old. At Christmas time, however, the menses did not appear. She then took tansy tea, also turpentine. These being unavailing, she procured an English catheter, removed its stylet and made a daily effort for about three weeks to pass it to the fundus uteri. At last, toward the end of January, she felt that she had succeeded. There was almost constant metrorrhagia through February and up to the middle of March. She then was obliged to call her physician, who mitigated the flow by exhibiting the fluid extract of ergot; but there was still some flowing.

Between the 10th and 19th of May, Bonjean's ergotin was tried, seventy-two grains in all being taken, and the vagina was packed in Sims's position. Then the attending physician, who believed that he was treating an ordinary case of retained placenta, used a blunt wire curette (without ether and without assistants) following its use by swabbing the inside of the womb with Churchill's tincture of iodine. It is probable that this operation did not affect more than the cervix uteri. The flow continuing, a gallon of hot water was injected thrice daily for four days. The hemorrhage persisted and the patient had now become profoundly anemic, when the writer was asked to see her immediately and remove this obstinate placenta under ether. When, however, the patient was placed upon the table, the uterus was found reaching nearly to the navel, and evidently pregnant. It seemed the only chance for the mother to empty the womb, which was done at once and successfully. The patient's convalescence was uninterrupted, though slow. The fetus corresponded to about the fifth or sixth month. The points that seem of especial interest in this case are: (1) that conception occurred while the mother was nursing a child only six or eight weeks old; (2) that pregnancy should persist, despite so many adverse influences; and (3) that the woman escaped sepsis or any permanent injury.

REPORT ON LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D.

ON RADICAL OPERATIONS FOR THE CURE OF INTRINSIC CARCINOMA OF THE LARYNX.¹

ONE of the most valuable papers read in the Section of Laryngology, at the Tenth International Medical Congress, was by Mr. Henry T. Butlin, of London, under the above title. Mr. Butlin called attention to the great principle which should underlie the selection of cases for operation. He believes that the operation of excision of the larynx, whether partial or complete, should be practised only in cases of intrinsic carcinoma, in which the disease is still limited to the interior of the larynx. The following evidence was submitted to

prove the justice of his theory, that the selection of cases should be made on pathological grounds. One hundred and two operations for intrinsic carcinoma had been collected from various sources. They were performed on 95 patients by various surgeons in different parts of the world. The 102 operations contain 28 cases of thyrotomy, with the removal of the diseased parts in the interior of the larynx; 23 cases of partial, generally half, excision of the larynx; and 51 cases of complete excision of the larynx. In considering the results, Mr. Butlin took first the deaths which were due to the operations; secondly, the patients regarded as cured by operation; and, thirdly, the relief afforded to patients who were not cured.

(1) Deaths Due to the Operation.—The 28 thyrotomies were performed on 27 patients, of whom three died from the results of the operation. The 23 partial excisions were performed on 23 patients, of whom seven died of the operation. The 51 complete excisions were performed on 51 patients, of whom six had been previously subjected to the operation of thyrotomy. Sixteen patients died of the operation. There were thus 26 fatal cases in 102 operations. The causes to which the deaths were attributed were in one case to an accident, one died of secondary hemorrhage, two of paralysis of the heart, and three of exhaustion. In three cases the cause of death was not ascertained. One patient died of pleurisy, and six of some affection of the lungs. In the remaining nine cases the cause of death was some form of septic poisoning. Mr. Butlin thinks that it is scarcely creditable to us, in these days of antiseptic surgery, that more than one-third of the fatal cases following these operations should be due to some form of septic poisoning. He then points out that the special difficulties with which we have to contend in the management of these patients are of two kinds: (1) The difficulty of maintaining the wound aseptic. (2) The difficulty of preventing the entrance of passages. Mr. Butlin believes that but a small proportion of the patients die from direct wound poisoning. In the majority of the cases of septic poisoning, he believes that the sepsis is indirect and of pulmonary origin. In future, Mr. Butlin states, that he feels disposed to treat the majority of his patients without tracheotomy tube or tampon, after the removal of the first tampon-tube within twenty-four hours of the operation, by frequently dusting the wound with iodoform, or iodoform and borax, and by placing over the external wound a piece of iodoform gauze, which can be changed as often as it becomes soiled. In addition, the patient should be laid well over on one side, and the head placed on a single small pillow, so that the wound may be, in a certain measure, dependent.

(2) Persons who may be Regarded as Cured by Operation.—Those persons only who were free from disease at least three years after the last operation are regarded as cured. Taking first the cases of thyrotomy, the total results were that three persons died of the operation; in 13 cases the disease recurred; eight patients recovered and were well at various periods, but sufficient time had not elapsed to allow of their being regarded as cured. In three cases the operation may be regarded as wholly successful, for one of the patients died four years afterwards of cerebral apoplexy, at the age of sixty-seven; the second was well at the end of eight; and the third, at the end of twenty years.

¹ British Medical Journal, August 23, 1890.

Of the patients (23 in number) on whom partial excision was performed, seven died of the operation, six suffered from recurrence of the disease, five recovered and were well at the end of various periods within three years, and one died at the end of two years and a half without recurrence of the disease. Four patients may be claimed to have been cured, for three were well at the end of three years and a half and four years after the operation, and a fourth died at the end of five years, of apoplexy, at the age of 60.

Of the 51 cases of complete excision, the operation proved fatal in 16, the disease recurred in 17, four patients recovered and were well at the end of various (for the most part short) periods, and six died of other causes. Of these six, four died within a few months — two of pneumonia and two of apoplexy, or more probably asphyxia, the fifth at the end of twenty months of alcoholism, and the sixth at the end of about two years of inanition. In this case no cancer was found after death, although the manner of his death strongly suggests that it was present in one or more of the internal organs. Eight patients may be claimed to have been cured, for seven were well at the end of three years and a half, four years (two), four years and a half, five years, five years and three-quarters, and nine years after the operation, and the eighth died at the end of four years and a half without recurrence of the disease. Some of these patients were employed in avocations which must be regarded as laborious — one man in a riding school, and a woman as a laundress.

The total results, then, so far as cured cases are concerned, are that 15 patients were alive and free from disease, or died of some other disease than cancer, at periods of from three to twenty years after the last operation — a result which will compare favorably with those afforded by operations for malignant disease of the testicle, the tongue, the upper jaw, or even of the breast, were it not that operations on the larynx are so much more fatal than those on the testicle, the tongue, and breast.

The results of operations for recurrent disease are shown to be bad. The best hope of success — nay, almost the only hope — lies in the first operation. If this fails, there is little prospect of relief from surgical interference. With regard to the choice of operation Mr. Butlin urges that the smallest operation consistent with the widest excision of the disease, and the removal of a wide area of the surrounding tissues, should be performed.

(3) *The Relief afforded to Patients who are not Cured.*—Persons on whom thyrotomy has been performed require no instrument for speech, can swallow as well after as before the operation, and experience no difficulty in breathing. The measure of their relief is therefore the measure of the time during which they remain free from recurrence of the disease.

The same may be said of patients on whom partial excision has been performed, for there are seldom any troubles which can be attributed to the operation; but an equal measure of success cannot be claimed for the operation of complete excision. The necessity for the wearing of the tube, the difficulty of maintaining the voice-tube free from saliva and mucus, and the difficulty which some patients have experienced in swallowing, must all be taken into account in considering the value of the operation. Mr. Butlin concludes as follows:

I have limited my remarks to the selection of cases for operation, not because there are no other points in

relation to the diagnosis and treatment of the disease in which I am interested, but because I am anxious to attract the attention of all those who are interested in laryngeal surgery to what I believe to be the great principle which should underlie the selection of cases for operation.

The difference between carcinomas of intrinsic and extrinsic origin is not merely one of limitation of the disease within a certain circumscribed area. It is an essential difference. The former are of slower growth, often taking years to run their course, affecting the lymphatic glands either late or not at all; in fact, less actively malignant than the latter. I would not, however, have it supposed that I regard every case of intrinsic carcinoma as equally suitable for operation, even in its early stages, for occasionally one meets with intrinsic carcinomas which are much more malignant than the rest. Only last year I opened the larynx of a man, and cut and scraped out an ulcerated carcinoma, which in the course of three or four months had spread rapidly over the interior above and below the vocal cords. The tracheotomy tube was soon removed, the wound healed well and quickly, but before he left the hospital the disease recurred. In less than a month it formed a tumor in the neck, and within three months had caused the patient's death. Just as there are now and again very malignant cancers of the lower lip, so there occur from time to time intrinsic carcinomas which are exceedingly malignant, so that rapidity of growth and early ulceration must be taken into account in estimating the fitness of each individual case for operation. On the other hand, while I believe that carcinomas of extrinsic origin are generally wholly unsuitable for operation, I would not say that a radical operation should never be performed in a case of extrinsic carcinoma. For just as there are from time to time intrinsic carcinomas which are exceedingly malignant, so there can be little doubt that occasionally an extrinsic carcinoma of less malignancy may be met with which may be removed with the best hope of success.

THE SURGICAL TREATMENT OF CROUP.²

In a paper under the above title Dr. F. E. Waxham, of Chicago, presents his views on the relative merits of intubation and tracheotomy. A nice question of judgment, he says, often arises as to the proper time for interfering surgically. He considers that when the voice becomes whispering; when the cough becomes suppressed; when, in addition, the dyspnea becomes urgent, and the loud stridor heard both on inspiration and expiration, and when there is marked recession at the base of the sternum and above the clavicles — when all these symptoms are present and continuous, and not relieved by the use of emetics, it is certainly time to operate.

Operations performed early, with the first symptoms of laryngeal obstruction should not be sanctioned, as many will recover under medical treatment. Operative measures, on the other hand, should not be postponed until the patient becomes moribund, for while many will recover even under these circumstances, yet their chances for recovery are far less than when the operation is performed earlier.

Having determined that an operation is imperative, the next question to decide is the choice of operation. Shall we choose the time-honored operation of trache-

² Journal of the American Medical Association, October 11, 1890.

otomy or the more recent operation of intubation of the larynx?

To those competent to do the operation with delicacy and skill, he recommended intubation in preference to tracheotomy at all ages, under all conditions, and under all circumstances. In support of this advice he fully recorded 285 cases with 100 recoveries, or 35 per cent. These cases were not selected, the majority of them being among the poor and destitute, where tracheotomy would hardly have been considered. The ages ranged from five months to twenty years, and the operations were not performed early, but as a last resort. Two hundred out of the 285 cases were under five years of age. Among those to recover were two infants of nine months, and one of ten months. There were 93 cases under three years, with 22 recoveries, or 23.76 per cent. There were 192 cases over the age of three years, with 88 recoveries, or 45.62 per cent.

INTUBATION OF THE LARYNX IN ACUTE AND CHRONIC SYPHILITIC STENOSIS.³

In this paper Dr. George M. Lefferts considers the importance of intubation as a substitute for tracheotomy and the method of Schroetter in certain syphilitic diseases of the larynx.

Dr. Lefferts well says that intubation in the treatment of diphtheritic croup, revived, improved, and popularized by American genius and perseverance, must soon, by its very simplicity, readiness, marvelously quick relief in moments of urgent danger, and brilliant, ever improving statistics of cure, find a world-wide acceptance and become universally practised. On the contrary, our knowledge of intubation as a means of relief or cure in other forms of acute and chronic laryngeal stenosis, especially those of syphilitic origin, is in its infancy, its ultimate possibilities as yet undeveloped.

He believes that intubation certainly offers, in a large proportion of instances, the simplest and most practical means yet devised of quickly and efficiently relieving the dyspnoea of acute laryngeal stenosis, thus avoiding a tracheotomy, and for dilating chronic cicatrical stricture, in its varying grades and forms, with speed and certainty, thus dispensing with the temporary or permanent necessity of a tracheal canula.

The history of the treatment of chronic laryngeal stenosis, especially that of a cicatrical nature, shows no brilliant triumphs and but few lasting successes. Many methods have been devised, many instruments been the outcome of the inventive ingenuity of specialists; but until the latest and well-known one of Professor Schroetter, which necessitates the existence of a tracheotomy wound, no distinct plan of procedure had, or has since, been formulated.

Over the "method of Schroetter," the only one necessary to be considered in this connection, intubation presents the advantages of avoidance of the necessity of a preliminary tracheotomy, and affords a possibility of the continuous and prolonged retention, without risk or inordinate discomfort, of the dilating means.

Doubtless the future will modify, perhaps greatly extend, the limitations here placed upon the procedure, but to-day we may claim certainty of fulfilment in some, reasonable expectation in others, of the following general indications.

CLASS I. The immediate relief of dyspnoea in all

³ New York Medical Record, October 4, 1890.

cases of acute syphilitic stenosis of the larynx, by mechanically and temporarily affording an artificial passage for the respiratory current through the intubation-tube.

CLASS II. Facilitating and hastening, by either equitable and prolonged, progressive, or specially directed pressure of the intubation-tube, the absorption of acute inflammatory effusion, or the thickening and induration attendant upon chronic syphilitic inflammation of the larynx.

CLASS III. Forceful dilatation and continuous distention, by means of the intubation-tube, of slight and recently organized membranoid or band cicatrices.

CLASS IV. Progressive dilatation, by means of a series of intubation-tubes, of cicatrical strictures of the larynx, subsequently to their incision, by some form of cutting laryngeal dilator.

CLASS V. Divulsion and progressive dilatation: Incision and subsequent distention, the former being made through the larynx, or from below, through the tracheotomy wound; or systematic, continuous dilatation, by such specially adapted intubation-tubes as may be required in cases which vary greatly in the nature, extent, and character of the lesions, in all cases of chronic and extensive cicatrical stenosis of the larynx, with displacement and distortion of laryngeal parts, the result of dense cicatrization following gummatous degeneration in tertiary syphilis and where a tracheotomy tube may or may not be worn.

And in the following classes:

CLASS VI. In dyspnoea due to abductive immobility of the vocal cords, dependent upon syphilitic non-suppurative adhesive arthritis of the arytenoid articulations, or their mechanical-fixation by either plastic infiltration of the tissues in their neighborhood, leading to adhesive perichondritis and spurious ankylosis, or cicatrices of the same parts, which bind them in an immobile position, and in which well-directed pressure by the intubation-tube will exert a favorable influence by promoting absorption of effused material, or forcibly break up cicatrical attachments and free articular movement.

CLASS VII. In dyspnoea dependent upon abductor paresis, from commencing degenerative processes of syphilitic origin in the abductor muscles themselves, in which the preservation, by means of the intubation-tube, of even a small respiratory opening may stimulate normal physiological movement and preserve nutrition by maintaining muscular activity.

It is understood that in all the above classes of cases intelligent and energetic anti-syphilitic treatment is employed to combat the accompanying diathesis; and that the tracheotomy canula, if it be worn, is no contra-indication or barrier to the use of an intubation-tube.

Histories of several cases are given in this careful paper illustrating many of these propositions. The technique of the operation is made clear, and the intubation-tubes described.

ETIOLOGY, SIGNIFICANCE, AND TREATMENT OF SPURS AND DEFLECTIONS OF THE NASAL SEPTUM.⁴

A discussion on the above subject was introduced in the Section of Laryngology at the last meeting of the British Medical Association, by Dr. E. Woakes and Mr. W. J. Walsham of London.

Dr. Woakes began by saying that he would limit

⁴ Journal of Laryngology and Rhinology, October, 1890.

his remarks to a simple account of his own experience. He thought it possible that deviation might be congenital. Injury, the most frequent cause, gave rise to most pronounced degrees of deformity.

One feature was common to all cases. However extensive the deviation might be, the mass did not touch the floor of the passage, a circumstance which was of great help to the surgeon. In deviations and spurs of idiopathic origin the cause would most frequently be found in the presence of enlargements of the spongy bones. There was a very intimate association between spurs and deviations, of which fact, Dr. Woakes offered the following explanation: When the cartilaginous septum was pushed to one side, the pressure tended to dislocate it from its line of insertion into the median ridge of the superior maxilla. A slow inflammatory process was set up at this line, which resulted in the formation of a buttress of hypertrophied cartilage and bone. In such cases the spur must be regarded as a conservative formation, and should not be interfered with if it gave rise to no symptoms. Whether spurs on the posterior segment of the septum had the same origin was not clear. In some cases large spurs were found in that situation without any evidence of deviation; they were probably the result of by-gone periostitis.

The significance of deviations and spurs was twofold. In the first place they should suggest a search for pre-existing morbid conditions, for the treatment of which the mere removal or rectification of the deformity did not suffice. This remark applied especially to enlargements of the middle turbinated bone and diseases of the ethmoid region generally. In the second place they might give rise to symptoms. These might be grouped under two heads — obstruction to the nasal channel, and tension of, or pressure upon, nerves. Even partial nasal stenosis necessitated mouth breathing, and the respiration of air deprived of the moisture added to it in the nasal cavities, produced wide-reaching effects on the lower respiratory tract, such as chronic laryngitis, follicular pharyngitis, etc. The Eustachian tube and the auditory apparatus also suffered. The most interesting symptoms were, however, of the nature of nerve reflexes, such as a sense of suffocation referred to the larynx, which occurred mostly in persons under the age of thirty, and was often dismissed as hysterical; weak action of the vocal cords with corresponding weakness of voice. The presence of any of these symptoms justified surgical interference, which should be radical.

For the removal of the spur Dr. Woakes used the saw. Having inserted the saw as far as possible, he directed it first inwards towards the septum, and then used it in an upward direction parallel to the septum, until enough had been removed. A small plug of wood, dipped in carbolized vaseline, was then put in to cover the wound; he sometimes dusted this plug with iodoform before introduction. If there was deviation this must be rectified by means of Adams's dilator, but nothing would keep the septum straight if the spongy bones were hypertrophied; their reduction or ablation was therefore a necessary preliminary. Having cleared the nostrils and placed the septum in the middle line, the next step was to introduce the plugs. He had long discarded solid plugs, preferring fir-wood wool as a material. A piece of this wool was frayed out into a soft long mass, about four inches long. This was then twisted round a piece of ligature silk; it was

then doubled in the middle, and the two portions twisted together loosely and the two silks knotted together where the wool came to an end. There were thus two inches of wool, into the midst of which a thread of silk was inseparably twined, so that the whole could be withdrawn at will by means of these ends. Several of these plugs should be prepared beforehand; they might be smeared with iodized vaseline. One was introduced into each nostril by means of a strong probe or crocodile forceps. It should be carried the whole length of the nostril, and a second thinner one might be introduced above it if necessary. The ends of the silk hanging out of the nose should then be tied together. These plugs might be left in for a week. India-rubber tubing was a good substitute for the wool; it was cleanly, and admitted of irrigation. He had once or twice encountered troublesome hemorrhage in this operation. In such cases, and in all cases of nasal bleeding, he had found Ruspi's styptic superior to any other, especially if used in conjunction with fir wool. With regard to removing the inferior turbinated bone, or a portion of it, to make more room, he held that all the turbinated bodies should be treated with conservative respect when they were in a condition to perform their proper function; if, however, they were diseased, or adherent to the floor or walls of the nasal fossa, they might be dealt with according to the requirements of the case.

Dr. Walsham classified "deviations" as follows: (1) Simple deviations of the cartilaginous septum. (2) Dislocation of the anterior end of the septum from the nasal spine and from between the reflected portions of the lateral cartilages. (3) Deviations attended with cartilaginous and bony outgrowths of the septum.

The first variety was very common, and, when slight, gave rise to no inconvenience. In by far the greater number of the cases he had seen the deviation was the result of former injury, and in most of them it was associated with some slight displacement of the lateral cartilages or nasal bones. In a few there was no history of injury, and in these the deviation was generally first noticed about the age of puberty. He believed that in non-traumatic cases the deviation was the result of some defective development of the bones of the face. At or about puberty the nose underwent a remarkable development, and the accessory cavities (sphenoidal cells, frontal sinuses and antrum), previously hardly existent, rapidly assumed their adult proportions. As the sphenoidal cells were developed, the vomer was pushed downwards and forwards by the rostrum of the sphenoid, carrying with it the superior maxillary bone. This ploughing forward of the vomer carried with it the perpendicular plate of the ethmoid, together with the nasal bones and the external table of the frontal to which these were attached. In this way the frontal cells were developed. If anything interfered with the due development of the jaws or prevented the carrying forward of the external table of the frontal bone, the nasal bones would also be arrested in their forward extension; and, supposing the development of the septum to go on, some deflection must occur, as the sense of smell was becoming of less importance in the struggle for existence, the accessory nasal cavities were slowly becoming smaller, but it did not follow that every septum should be crooked.

By way of treatment Dr. Walsham preferred shaving the cartilage or the use of the saw according to the

variety. In traumatic cases he had found straightening, with removal with knife and nasal saw of any projecting portion of callus, very successful. The septum must be literally smashed by the forceps, with as little laceration of the mucous membrane as possible. It was of no use to twist it straight and leave it, as the deflection was almost certain to recur. To ensure the thorough smashing of the maxillary crest the handles of the forceps should be well raised, or angular forceps should be used. The upper fragments should be bent well over to, or a little beyond, the median line. After the septum had been rectified, it must be kept in position by some form of retentive apparatus. India-rubber inflating plugs would be found serviceable, especially when the cartilages were slightly depressed. When no apparatus was at hand a piece of stout rubber drain-tube might be employed. In non-traumatic cases the cutting away of the outgrowths from the septum with a strong, narrow, probe-pointed scalpel, supplemented by the use of the nasal saw when the projection was of osseous consistency, would usually suffice. He had used the saw attached to the surgical engine, but preferred to use it by hand, and, as he always did these operations under general anesthesia, he preferred the straight saw to that with a nasal angle. For the removal of exostoses, drilling was highly spoken of by some, but he could not speak of it from personal experience. It seemed to him not unattended with risk of septic infection.

The cases he had found most difficult to treat were those in which, in conjunction with a general deviation of the whole septum to one side, there were irregular spurs with localized bulging combined with deflections of both the vomer and maxillary crest. In such cases, forcible straightening with excision of the most prominent spur offered the best prospect of success, and if this failed, the best course was to remove the inferior turbinated body and to leave the septum alone. With regard to the deformity of the nose so often associated with deviation of the septum, when the lateral cartilages were merely deflected to one or other side, they might (after the septal troubles had been dealt with) be bent straight and kept in position by a retentive truss, which should be worn for a considerable time.

When the nasal bones were depressed so that the nose became broad and the nasal processes of the maxillary bones separated, the bones could in many cases be lifted or wrenched into place with forceps. No untoward result, such as necrosis or other injury, had hitherto occurred in his practice, though if too much force were used it might be possible to injure the cribriform plate of the ethmoid, and thus run the risk of septic meningitis.

With regard to depression of the cartilages at their junction with the nasal bones as the result of injury, he had not hitherto been successful in retaining them in position. It was easy to replace them, but they always fell back when the retentive apparatus was removed. In the first case in which he could obtain the patient's permission, he intended, through a median incision, to turn back the skin on each side, and then to raise the depressed cartilages and fix them to the nasal bones by thin silver wire. The wire would be passed obliquely through the bones and cartilages, previously drilled, without perforating the mucous membrane. The wire could then be battened down on the nasal bones and the skin replaced and united by suture.

These operations, and especially forcible straightening, could always be more thoroughly performed under chloroform than under cocaine. There was always considerable hemorrhage, but when the mouth was held open with a gag, and plenty of sponges with handles were in readiness, no trouble need be feared on that score.

Reports of Societies.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

SIXTEENTH ANNUAL MEETING held in Louisville, Ky., October 8, 9, and 10, 1890.

FIRST DAY.—MORNING SESSION.

The Association met in Liederkrans Hall, and was called to order by the President, Dr. J. M. MATHEWS, of Louisville, at 10 A. M. Prayer was offered by the Rev. Mr. Jones, of Louisville.

Dr. I. N. BLOOM, of Louisville, Chairman of the Committee of Arrangements, made his report.

The first paper read was by Dr. FRANK WOODBURY, Philadelphia, Pa., entitled

INFECTIOUS DYSPEPSIA AND ITS RATIONAL TREATMENT BY THE ANTISEPTIC METHOD,

in which he said it was proper to state, at the outset, that our present consideration of the subject is limited to dyspepsia solely as related to the stomach; no reference was attempted, or intended to be made to intestinal indigestion, or to the so-called, intestinal dyspepsia.

With reference to the pathology of dyspepsia, he considered it at least as much entitled to recognition as a distinct disease, in the present unsettled condition of medical nomenclature, as consumption or chorea. Like them, it is characterized clinically by manifestations of nervous disorder; so that Cullen was not very far wrong in considering dyspepsia as a neurosis under the class of adynamie. Like pulmonary phthisis, also, its most marked symptoms are produced (the author believes) by the absorption of the products of parasitic micro-organisms.

Of late years the science of bacteriology has made wonderful advance, and especially in the department of bacterial parasitism, or infection, and its relation to disease. Abelous, a recent investigator of this subject, found sixteen species existing normally in his own stomach, of which two were micrococci, thirteen bacilli, and one vibrio. The presence of saprogenic microbacteria in the stomach, therefore, being constant and not incompatible with health, it becomes necessary to inquire why fermentation or putrefaction of the food does not occur after every meal? In other words, how is practical antisepsis obtained by natural process? Three things are to be considered in this connection: (1) the food, (2) the digestive fluids, and (3) the physical conditions attending the act of digestion.

Laborious, painful, and imperfect digestion occurring habitually, when not symptomatic of other disease, constitutes dyspepsia; and when accompanied by fermentation of the contents of the stomach and general toxic symptoms, the result of microbial development, it may properly be called infectious dyspepsia. The disorder is sufficiently prevalent, and gives rise to enough discomfort and actual suffering in its victims, not only

to deserve our serious consideration, but also to enlist our best therapeutic skill in their behalf. The excessive growth of micro-organisms during digestion is favored by slow movements of the stomach and by defective quantity of the gastric juice. Acid dyspepsia, or sour stomach, may be due to excessive secretion of hydrochloric acid (rarely), but is generally caused by lactic, acetic, or butyric fermentation, due to the presence of appropriate forms of bacteria in the stomach. The object of treatment of infectious dyspepsia is to prevent the excessive development of micro-organisms during the digestion of food. This is sought to be accomplished (1) by the use of articles of diet which are not in a fermenting condition nor readily fermentable; (2) by adopting such hygienic and tonic measures as will invigorate the bodily powers and especially bring the gastric juice up to its normal standard of quality and quantity, and increase the muscular power of the stomach; and (3) by local antiseptic treatment, including the administration of drugs which retard fermentation, and especially by lavage, or irrigation of the stomach, with weak disinfectant solutions, or simply recently-boiled water.

DR. JOHN H. HOLLISTER, of Chicago, contributed a paper on

HELP AND HINDRANCE TO MEDICAL PROGRESS.

He said the possibility of progress depends upon the present imperfection of present attainment; possible results are dependent upon our abilities, upon our methods and upon the obstacles to be overcome. The profession must command a much higher average of native talent; that talent must receive a much higher grade of culture; and the present methods of research on the part of the profession must be greatly modified and improved.

DR. I. N. LOVE, of St. Louis, Mo., in a paper entitled

COFFEE

said that his experience for five or six years past is strongly in favor of taking a cup of strong, black coffee, without cream or sugar, sandwiched in between two glasses of hot water, before rising every morning—at least, one hour before breakfast. The various secretions are stimulated, the nervous force is aroused, an hour later a hearty meal is enjoyed, and the day's labor is commenced favorably, no matter how the duties of the day and night preceding may have drawn upon the system. Another cup at four in the afternoon is sufficient to sustain the energies for many hours. In this way the full effect is secured. The stimulant devotes itself strictly to business; none of it is lost if the proper diet be taken at the proper times; and the ideal diet for those who make large drafts upon their nervous systems and expect to have them honored is hot milk. If the above regimen be followed, and accompanied by at least eight hours of sleep out of every twenty-four hours, the capacity for work is almost unlimited.

DR. GEO. HULBERT, of St. Louis, Mo., read an interesting paper on

MECHANICAL OBSTRUCTION IN DISEASES OF THE UTERUS.

He submitted the following conclusions:

(1) That in the natural or normal order of things, do we find the uterus in form and structure endowed with a power and capacity for the performance of the

function, menstruation, far in excess of any legitimate demand, to the extent that with a one-fourth inch diameter of canal at the sphincters, the excess equals 7724.8 times the demand, and with a one-thirty-second inch diameter, the excess equals 120.7 times the requirement.

(2) That in the pathological conditions, considered as essential for mechanical obstruction, do we find that the conservation of force is capable and does so regulate conditions that the capacity is not abolished, but persistent in an eminent degree, so that in the presence of the normal physiological energy the function is accomplished, save in only one emergency, that of total annihilation of the normal state, namely, atresia?

(3) That the phenomena considered as attendant and dependent upon mechanical obstruction are not due to the forcible expulsion of retained fluids through the uterine canal, but are resident and produced *within the tissues*, and are dependent upon *disturbed rhythm of physiological forces*, evolved through abnormal enervation, muscular action and circulation.

(4) That the demand upon the uterus, for the passage of blood-clots, membranes, mucous plugs, uterine sounds, sponge tents, uterine dilators, etc., in order that the diagnosis of mechanical obstruction may be made, is not only vicious in the extreme, but irrational, illogical and unscientific.

(5) That the correct and rational interpretation of the testimony offered by symptomatology, pathology and therapeutics removes mechanical obstruction from the domain of gynecology as a *demonstrable fact*, save in "atresia uteri."

FIRST DAY.—AFTERNOON SESSION.

The Association was called to order at 3 p. m., by first Vice-President DR. C. R. EARLEY, of Ridgeway, Pa.

DR. R. STANSBURY SUTTON, of Pittsburgh, Pa., made (by invitation) some remarks on

THE SURGICAL TREATMENT OF UTERINE FIBROIDS, and exhibited specimens.

DR. WILLIAM PORTER, of St. Louis, Mo., contributed a paper entitled

PROFESSOR FLINT'S DOCTRINE OF THE SELF-LIMITATION OF PHthisis,

in which he said that some time before his death Professor Flint promulgated the doctrine of the self-limitation of phthisis, and presented it with all his well-known power and great ability to the profession. This very interesting proposition was at the time the subject of free debate in various medical societies. The recent years have been full of the wonderful results of the study of pulmonary disease and bacteriological research, and the possibility of a positive diagnosis has overshadowed the equally interesting question of prognosis.

After having carefully examined the facts cited in support of the proposition, Dr. Porter said he had no hesitation in asserting that he finds no sufficient evidence to warrant us in accepting the statement that phthisis is self-limiting, or that the element of self-limitation has a decided influence upon the result in any given case. He did not mean that all cases of phthisis necessarily die from this disease, but he does mean that where phthisis is firmly established, there is nothing in the nature of the disease itself that indicates in

any stage a fixed boundary — a line of demarcation, as it were, but rather that all of its tendencies are progressive and downward.

Dr. Porter drew the following deductions: (1) That there is no sufficient clinical evidence to warrant us in believing that by self-limitation as defined by Professor Flint, pulmonary phthisis may end in recovery. (2) The pathology of phthisis is equally opposed to the proposition. (3) Although phthisis is not self-limited yet limitation is possible through "extrinsic influence derived from hygiene and therapeutics."

DR. A. B. THRASHER, of Cincinnati, O., read a paper on

COUGH, ITS RELATION TO INTRA-NASAL DISEASE.

He said cough is a reflex phenomenon due to the irritation of a nerve-fibre in the air-tubes, larynx, pharynx, nose, ear, stomach, etc. A normal cough is for the purpose of freeing the air-tract from some foreign body. Irritation of the upper part of the trachea, and the ventricles of Morgagni, most frequently produces cough. An irritation in many other locations may be referred by the sensory centres to this region, and thus give rise to cough. Inflammation of the cavernous bodies of the nose or of the adjacent septum has been known to give rise to a distressing cough, and has been mistaken for evidence of tubercular disease. This is more apt to occur in a person of neurotic temperament. The cough due to nasal disease may sometimes be recognized by its metallic ring, and the absence of expectoration. It can, as a rule, be provoked at will, by touching the irritable spot in the nose with a silver probe. Dr. Thrasher recited three cases illustrative of nasal cough from his private practice.

In CASE I there was no subjective symptoms of nasal disease. The cough had been present for three months and was not benefited by the usual cough mixtures. The lower turbinate was found to be hypertrophic, and touching it with a probe provoked violent coughing. The cauterity was applied and in three days the patient ceased to cough.

CASE II. A young lady had been coughing violently for three months. She referred the irritation to the throat, which had been pencilled and sprayed for some time with no relief. Touching the posterior extremities of either lower turbinate produced violent cough. Treatment as in Case I, with good results in two months.

CASE III. Cough had been present six months, and was not benefited by constitutional or local treatment. The seat of the trouble was found to be in the left middle and right lower turbinate. Treatment similar to other cases was followed by cessation of cough within a month.

A paper entitled

THERAPEUTIC USES OF CARDIAC SEDATIVES IN INFLAMMATION,

by DR. HOBART AMORY HARE, of Philadelphia, Pa., was read by title in the absence of the author.

DR. A. H. OHMANN-DUMESNIL, of St. Louis, Mo., reported

A CASE OF RHINOTHYMA — OPERATION.

FIRST DAY.—EVENING SESSION.

DR. JOHN A. WYETH, of New York, delivered the public address, taking for his subject,

THE MEDICAL STUDENT.

The hall was literally packed with people, and the members of the Mississippi Valley Medical Association, a great many of them, who came to hear the lecture, were turned away, the students of the Louisville University having taken possession of nearly all the seats, thus literally freezing the members out. The address was listened to very attentively, and Dr. Wyeth received applause several times during its delivery.

He said the *first* or preliminary stage of a medical student's life is his preparatory or academic life; the *second*, his medical college life; the *third*, his post-graduate or practical life, and it extends from the day he leaves his alma mater until usefulness ceases. In the acquirement of a practical training three ways were open, and in order of preference they are:

(1) Service as interne, preferably for a term of two years in a general hospital.

(2) Service in some post-graduate institution, where all departments of practical medicine are taught by teachers especially trained in their respective branches.

(3) Service as assistant to one or more well-qualified practitioners in general medicine.

SECOND DAY.—MORNING SESSION.

DR. JOSEPH RANSOHOFF, of Cincinnati, O., read a paper on

CHRONIC DISEASES OF THE JOINTS.

DR. H. C. DALTON, of St. Louis, Mo., contributed a paper entitled

CASES OF PENETRATING STAB-WOUNDS OF THE ABDOMEN; LAPAROTOMY; RESULTS.

Dr. Dalton reported six cases of laparotomy in which there was visceral injury. There was one death and five recoveries.

CASE I was a wound of the descending colon and ileum; recovery. B. T., colored, aged sixteen, was admitted to the City Hospital of St. Louis, July 23, 1890. Patient stabbed two hours previously with long-bladed knife. Wound at free extremity of the twelfth rib; several inches of omentum protruded; general condition excellent; pulse 62, respiration 23, temperature 100°. Incision in the left linea semilunaris; blood and fecal matter in the cavity; there were two holes in the descending colon, and one in the ileum, which were closed with continued iron-dyed silk sutures. Discharged from hospital eleven days after admission.

CASE II. Stab-wound of liver and intestines; recovery. A. V., aged 21, admitted August 21, 1890, received three stab-wounds an hour and a half before admission. One was an inch below the costal border, four inches to the left of median line; three inches of omentum protruded. The second was an inch above and two inches to the right of the umbilicus. The third was in the seventh interspace, in the right axillary line. The wound of the jejunum was closed by an interrupted silk suture. Four inches of the seventh rib were resected, the diaphragm split up three inches, and the wound in the liver closed by one catgut suture. Diaphragmatic and cutaneous wounds closed by continuous catgut suture. Patient's temperature rose to 102° on the second day, after which he recovered rapidly.

Dr. Dalton laid particular stress upon the necessity of following the wounds to the bottom and making

ocular inspection of the same, and severely condemned the method of trusting to the introduction of the finger in the *tactus eruditus*. He deprecated depending implicitly upon Senn's hydrogen-gas test on account of its fallibility.

These cases were generally discussed and the doctor highly complimented on his good results.

DR. M. T. SCOTT, of Lexington, Kentucky, reported a case of

GUN-SHOT WOUND OF THE INTESTINE,

in which there were four perforations by a large bullet, various complications, and complete recovery following laparotomy.

DR. B. MURDOCH, of Pittsburgh, Pa., contributed a paper on

TORSION OF ARTERIES AS A MEANS FOR THE ARREST OF HEMORRHAGE.

He said there is no subject of greater interest to the practical surgeon than the arrest of haemorrhage. This remark is equally true whether the haemorrhage comes from a wound accidentally inflicted, or one made intentionally, by the surgeon's knife.

There are two methods by which the torsion may be applied: (1) limited torsion, and (2) free torsion. In the first method, two pairs of forceps are required. The first pair grasps the vessel at its cut extremity, and pulls it from the sheath. It is then seized by the second pair at a point from one-half an inch to an inch above the cut extremity of the artery; this second pair being held at right angles to the long axis of the vessel. The first pair is then given three or four sharp turns. By the second method (free torsion) only one pair of forceps is required. It is the one recommended by Mr. Bryant as not being so likely to injure the external coat of the artery. And this is the method which was adopted in the cases which are given here-with.

The following is a table showing the number of arteries divided in cases of amputation, where torsion had been resorted to for the arrest of haemorrhage at the Western Pennsylvania Hospital:

Femoral	116 times.
Popliteal	18 "
Axillary	18 "
Anterior tibial	317 "
Brachial	81 "
Posterior	317 "
Radial	45 "
Ulnar	45 "

Dr. Murdoch said, in conclusion, that the advantages of torsion as compared with ligation are: (1) The greater facility with which it can be applied. (2) Torsion is a safer method, being less liable to be followed by secondary haemorrhage. (3) Healing is facilitated because the wound is free from any irritating or foreign body.

DR. G. FRANK LYDSTON, of Chicago, Illinois, exhibited the skulls of a number of the most notorious criminals of the world, and made some very instructive remarks with reference to their peculiarities, shape, size, etc.

(To be continued.)

Internal Prophylaxis. — "Why, Pat, for Heaven's sake, what is the matter?" — "Well, sorr, I swallowed a pertater-bug; and although, sorr, I took some Parrus-green widin five minutes after, ter kill th' baste, shill he's just raisin th' devil inside o' me, sorr." — *Sanitarian*, October, 1890.

AMERICAN GYNECOLOGICAL SOCIETY.¹

DR. F. H. DAVENPORT, Boston, reported a case of **INCONTINENCE OF URINE DUE TO MALPOSITION OF THE URETER.**

The patient was twenty-nine years of age, and gave a history of having suffered from incontinence of urine all her life, being constantly wet. The leaking was constant, and not affected by position or by straining or coughing. The amount varied within certain limits, from two to eight napkins being used daily. Menstruation and pregnancy increased the flow.

There was no cystitis in this case, and her usual medical attendant had corrected a malposition of the uterus, and had used electricity, belladonna and other remedies, but without appreciable effect.

Examination revealed a malformation of the ureter. Instead of turning into the bladder at the normal position, the ureter was continued along in the septum between the bladder and the vagina, and emptied by a special opening near the meatus.

The treatment indicated in this case was, if possible, to dissect up the ureter from its bed in the anterior vaginal wall, to a point corresponding to where it would normally enter the bladder, make an opening into the bladder, turn the ureter in and fasten it there, and then close the fistula. This operation was performed, sutures of silver and catgut being used. Subsequent retraction of the ureter rendered a second operation necessary, in order to fix the end of the ureter. This operation was a complete success.

Dr. Davenport stated that this variety of ureteral malformation is extremely rare, and that there are records of only a few cases in which operation has been attempted. He referred to the cases of Dr. W. H. Baker, Dr. T. A. Emmet and Dr. Von Massari.

DR. W. W. JAGGARD, of Chicago, thought that injuries to the ureters were quite common during pregnancy, and that those existing before pregnancy might become intensified, but that they were not common during labor, as at that time the bladder is drawn up into the abdominal cavity and becomes an abdominal viscus, and the ureters are out of the way of the pressure from the head of the child; that they are rarely injured by the dilatation of the cervix or the application of the forceps before the engagement of the head. In 1878, a German observer called attention to compression or dilatation of the ureters as a cause of eclampsia, and years before Morgan had noticed the same thing. The speaker had seen one case where compression was believed to be the principal causative element in eclampsia. Recent anatomical investigations with frozen sections of women dying early and late in the puerperium, particularly in cases of difficult labor, have demonstrated that the bladder is an abdominal and not a pelvic organ. Among the causes specially operative in producing injury of the ureters during pregnancy, he mentioned (1) increased abdominal tension; (2) presence of small ureteral calculi (calcareous pyelitis), having seen two cases in which calculi were probably the cause of a dilated ureter. He believes that palpation of the ureters during the puerperium is an extremely hazardous proceeding, productive of no good and entirely a work of supererogation, as an examination per vaginam and of the urine will disclose the necessary information.

¹ Fifteenth Annual Meeting, Buffalo, N. Y., September 16-18, 1890. Continued from page 460 of the Journal.

DR. A. W. JOHNSTONE, of Cincinnati, related a fatal case of injury to the ureter after laparotomy for multilocular ovarian cyst, where furious mania was developed forty-eight hours after the operation. The tumor pressed on the ureter just where it passed over the pelvic brim, and from that point up to the kidney it was so enlarged that it would admit the finger; and there was purulent inflammation of the ureter and hilum of the kidney; and the kidney itself was seriously disorganized. The lower portion of the ureter was normal. He believes that many of the cases of mania after laparotomy are due to some such condition as this. General tuberculosis is a very frequent disease of the ureters, and was noticed in a young girl who was supposed to be dying of phthisis, who presented no complication of the lung whatever, but had all the symptoms of tuberculosis. The post-mortem revealed the bladder, ureters, hilum of the kidney, and kidney itself studded with miliary tuberculosis. The ureters are a frequent source of trouble, and should not be overlooked in gynecological work.

DR. HENRY T. BYFORD, of Chicago, thought that in many cases of pelvic diseases, death was due to ureteral troubles such as uremic convulsions, etc., whereas they were attributed by the ordinary practitioner to the earlier disease which caused the ureteral trouble. Catheterization of the ureter is a difficult proceeding, and requires a practiced hand; but it is unreasonable to doubt that it can be done.

IS THE MORTALITY AFTER GYNECOLOGICAL OPERATIONS AFFECTED BY CLIMATIC INFLUENCES?

By **HENRY C. COE**, M.D., New York.

The writer was led to inquire into this subject by reason of the fact that not only in his hospital experience had he observed an apparent increase in the mortality during the early spring, but some of his most respected teachers in gynecology still believed that this season of the year was especially unfavorable for operative work. Modern surgery demands of us the exercise of every possible precaution in order to insure the best results. If there are other unfavorable influences beside sepsis which may vitiate these results, it is important that we should discover, and learn how to avoid them. With this object in view, the writer addressed the following queries to a large number of prominent gynecologists in America and abroad:

- (1) Have you noted any increase in your mortality, either in hospital or private practice, during any particular month or months?
- (2) If so, do you attribute this fact to climatic influences, or to the greater prevalence of sepsis at the season in question?
- (3) Have you ever suspended or limited your operative work during any month or months because of the increased mortality?

Replies were received from three-fourths of those who were thus addressed, the majority of which were in the negative. The general drift of the more extended answers to the above questions showed that the writers believed that if there was an increased mortality during the early spring, it was due, not so much to climatic influences, as to the uncleanliness of hospitals and operation-rooms after the winter's work, or to relaxation of the usual stringent precautions against sepsis. The most prominent and successful laparotomists scouted at the idea that their results were worse at any particular time of the year.

The reader agreed with the latter opinion. He had noticed no difference in private practice, and in those hospitals in which he had noted an increased mortality during February, March and April, he regarded it as clearly traceable to sepsis from preventable causes.

DR. HOWARD A. KELLY, of Baltimore, read a paper entitled

CEPHALHEMATOMA.

Dr. Kelly claimed that although this is one of the most important diseases of early childhood, it is rarely recognized, and few men outside of the ranks of pure specialists are aware that it exists. Cases which occur in the practice of the general practitioner are diagnosed and treated by him upon "general principles," the information which he possesses upon this subject being comparable to that of a physician practising early in the last century.

Cephalhematoma (cephalocephalhematoma) is a well-defined disease which appears soon after birth, runs a brief, definite course, tending, as a rule, towards resolution, but capable of seriously affecting the health or even of implicating the life of the child. The relative frequency of the disease is one in every two hundred and fifty obstetrical cases.

Dr. Michaelis, of Harburg, was the first to describe this disease. His description appeared in *Loder's Journal*, at the close of the last century, and was followed for thirty years by reports from many other contributors to German Journals. The name cephalhematoma was given to the disease by Naegele, in 1822.

Cephalhematoma is a circumscribed effusion of blood between the periosteum and one of the flat cranial bones, appearing usually the day after birth, and gradually increasing in size until it forms a tense, prominent, rounded or ovoid swelling. Its commonest seat is over one or both parietal bones. It is always lateral, never crossing a suture. The skin over the tumor remains movable and unaltered in appearance. The tumor is not painful, and does not decrease in size upon pressure. After two or three weeks, as a rule, it gradually disappears by absorption. Instead of being absorbed, the collection of blood may undergo suppuration, perforating the cranial cavity, or rupturing externally.

One of the most important diagnostic signs of cephalhematoma is the existence of a bony wall, one or two millimetres in height, which surrounds the whole outer circumference of the tumor. This can be distinctly felt through the skin, and gives at once the impression of a depressed fracture. Injury has no apparent connection with the origin of this tumor, which often appears after natural, easy and short labors, and upon a part of the head which was not prominent in the birth.

The earlier observers frequently incised the tumor, cleaned out the blood, and applied a compress. The best treatment to-day is to wait for two or three weeks for resolution by absorption, and, if this should not take place, to incise and empty the sac under strict antiseptic precautions, and apply an antiseptic dressing. Whenever signs of suppuration arise, the tumor should be freely opened at once, well washed out, and drained.

Dr. Kelly cited cases illustrating the symptoms of cephalhematoma and the advisability of following the treatment recommended.

DR. W. W. JAGGARD, of Chicago, believes that external cephalhaematoma occurs in many labors, and is healed spontaneously, attracting little or no attention. The internal variety where the tumor is between the inner layer of the periosteum and the bone, sometimes causes strabismus and death; it is not difficult to diagnose, but usually difficult to cure. He is of the opinion that injury is always the cause of these tumors, and that it occurs during labor by reason of the stretching downward of the periosteum and rupture of its blood-vessels, or by reason of the bringing together of the bones of the fetal head by the application of the forceps. It is essentially traumatic, and occurs in a slight degree in many labors, but reaches a perceptible size in about the proportion stated by Dr. Kelly. It is nearly as frequent in the after-coming head and transverse presentations, as when the vertex presents.

DR. EDWARD W. JENKS, of Detroit, remarked that Dr. Buecheu referred to cephalhaematomata in his "Diseases of Children" (1888), as having a very unfavorable prognosis and being difficult to differentiate from the spurious or ordinary caput succedaneum.

DR. FREDERICKS, of Buffalo, reported three cases of cephalhaematomata:

(1) The cephalhaematoma nearly covered the left parietal bone, and proved fatal on the fourth day, the child dying in convulsions produced by the pressure on the dura mater of the blood-clot which collected between it and the parietal bone. Labor normal, manual delivery; no treatment.

(2) The cephalhaematoma covered the parietal and frontal bones and orbita. Bleeding occurred at a cut made by the forceps on the frontal protuberance, and antiseptic dressing was applied. The child died at the end of the fourth day. The bony ring was clearly defined; labor long and difficult, with forceps delivery.

(3) The cephalhaematoma was larger than a silver dollar, upon the right parietal eminence; well defined bony edges and, contrary to the general rule, there was a bluish discoloration through the skin. No treatment; and at the end of six weeks, the tumor had entirely subsided, the only trace of it being the thickening of the periosteum over the area it had occupied.

DR. KELLY was convinced that these tumors were not the result of traumatism from severe labors or instrumental deliveries, being most frequently observed after simple and easy labors. They have been detected on the head of the child before birth, on the head of a five or six months' fetus, and in one case on the head of a child born by Cesarean section, all of which would lead him to believe that there must be some predisposing cause which is not as yet understood.

DR. THOMAS A. ASHBY, of Baltimore, read a paper entitled

DRAINAGE AFTER LAPAROTOMY.

Dr. Ashby stated that the occurrence and subsequent healing of fecal fistule in two cases, after operation, where there had been a delay in the removal of the drainage-tubes, had taught him the value of employing drainage for a length of time sufficient to insure a proper condition of the contents of the abdominal cavity. He had observed that in cases in which the abdomen was closed primarily, there was higher temperature, more pronounced nausea, and indications of a higher inflammatory action within the abdomen. He recommended no original method of

draining. The doctor claimed for drainage, that it is safe, that it promotes cleanliness and asepsis within the abdomen, that it provides a way of escape for intra-abdominal products, that it keeps the surgeon informed in regard to conditions in the pelvis, and that it reduces mortality.

DRAINAGE AFTER LAPAROTOMY.

DR. A. PALMER DUDLEY, of New York, in a series of seventy-nine cases of abdominal section including eight hysterectomies, one Cesarean section, two extra-uterine pregnancies and five pyo-salpinx, had used the drainage-tube in but two cases (fibroids), both of which died on the eighth day. The first from a circumscribed abscess of the omentum without general peritonitis, and the second from intestinal obstruction caused by adhesion of the intestines around the tube. Sixty-nine of these abdominal sections were made without the use of a drainage-tube and without a death, although in many of them there was a large quantity of fluid. The drainage-tube should only be used under two conditions: (1) where there is general peritonitis, and hemorrhage is suspected; (2) where the peritoneum is congested from a recent peritonitis, and bleeds if irritated with a sponge. Under all other conditions the proper toilet of the peritoneal cavity before closing the abdomen will accomplish more than any drainage-tube. The drainage-tube is dangerous in the hands of those who think they can accomplish with it what they should have done before closing the cavity. The dangers of the drainage-tube are: (1) intestinal adhesions from the formation of lymph around the tube; (2) fecal fistula; (3) occasional hernia. Where there is sufficiently grave septic inflammation in the pelvic cavity to endanger life, the tube is useless, as it very soon becomes walled in by a rapidly forming lymph cavity and cut off from the pus which is collecting around it. The success of the laparotomist is due to great care in the toilet of the peritoneum. He has great faith in washing out the abdominal cavity with a stream of hot water. The greater drainage-tube—the intestinal tract—he takes advantage of by the administration of saline cathartics just before operation to institute the vermicular action of the intestines which still goes on after the operation, and affords ample drainage, especially in cases of intestinal fistula. This, together with the use of hot water and careful closure of the peritoneum is safer and better than any form of drainage-tube. He uses the pure catgut sutures, which do not have to remain and be buried.

DR. E. C. DUDLEY, of Chicago, referred to the inadequacy of the ordinary glass drainage-tube for extensive drainage, on account of its being surrounded in a few hours by the agglutinated surfaces of the peritoneum, and believed that the system of drainage devised by Michaelis, which consisted in packing the part to be drained with iodoform gauze was a good one, and that the mistake most frequently made was in removing the gauze too soon, causing the adhesions around the gauze to break, with subsequent infection of the peritoneal cavity. He would use this system of drainage in all bad cases where there was a large surface to be drained, but that where there was doubt as to the necessity of drainage, the trial of the glass tube would serve to indicate or contra-indicate the necessity of more extensive drainage by the application of Michaelis's drainage.

DR. H. P. C. WILSON, of Baltimore, agreed with Dr. Dudley that the glass drainage-tube was utterly inadequate to drain large surfaces and that the Michaelis drainage was an excellent one. He referred to the frequency with which some of the European operators (Bantock and others) used the drainage-tube, the latter saying that he always felt safer when he had in a drainage-tube.

DR. M. D. MANN, of Buffalo, thought the drainage-tube was used too much. He has almost abandoned it; and if he did use it, he always felt uneasy while it was in. Unless it is watched with the greatest care, very great harm may result from it. He never uses it where it is possible to do without it. He would reverse the rule, "When you are in doubt, drain," and say, "Where you are in doubt, wait. Don't close the abdomen too quickly unless there is great shock; put in a sponge and use hot-water irrigation, and very frequently the hemorrhage will stop, and the abdomen may be closed without the necessity of drainage." He agreed with Dr. Dudley that drainage by the intestines or general system is an excellent plan. He starves his patients for forty-eight hours, giving them only a little water to moisten their lips; and by thus depriving the system of fluids, a great call is made on the lymphatics, which will take up the effused serum from the abdomen much safer than any tube.

(To be continued.)

THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MEETING, June 14, 1890.

DR. VICKERY reported, by invitation,

A CASE OF FLESHY UTERINE MOLE,¹

and showed the specimen.

DR. CHADWICK spoke of the great interest of the case, never having himself seen a case where the blighted ovum was carried so long.

Dr. Chadwick then reported

TWO CASES OF HYDATIDIFORM MOLE,

which he had seen recently in consultation.

The first case was that of a woman, of twenty-five years of age, in the fourth month of her first pregnancy, a patient of Dr. R. D. Elliott; he had recognized a uterus rather smaller than the period assigned. Throughout the pregnancy there had been occasional sero-sanguineous discharges. For a week there had been edema of the genitals, and albumen had been discovered in the urine. A few days later vomiting and headache had supervened. On Sunday, at 12 P. M., convulsions came on and lasted, with but little intermission, until Monday at 8 A. M. I was summoned in consultation, and reached her bedside at 10 A. M. As her head was again beginning to ache, it was manifest that another convolution was imminent, so I proceeded to empty the uterus without having sought to make any diagnosis of the degenerate condition of the ovum. Under ether the cervix was rapidly dilated by Goodell's dilator and the fingers. The hydatidiform cysts at once began to escape with much blood as usual. The uterine cavity was hastily emptied, curretted and washed out with acetic acid and a solution

of corrosive sublimate. The childbed was normal, and there were no subsequent convulsions.

The second case was seen only three days ago, in consultation with Dr. C. C. Street, and I have brought a specimen of the first cysts to exhibit. The patient was also at the fourth month of her first pregnancy, but the size of the uterus corresponded to that of the seventh month of pregnancy. There had been excessive hemorrhage from the uterus for a week. The diagnosis of hydatidiform mole was made. She was etherized and the uterus emptied, as in the last case. The convalescence was speedy and normal, except that the next menstrual period was profuse and some cysts discharged which had escaped the curette.

In one of these cases two characteristic symptoms of the disease were well-marked, namely: An enlargement of the uterus out of proportion to the length of pregnancy, and secondly, the hemorrhage at the time of delivery requiring speedy and energetic action. In the other the size of the uterus had been less than normal for the period. The occurrence of albuminuria and convulsions in one, so early in pregnancy, is extraordinary and militates against the absurd theory that mere physical pressure of the pregnant uterus is a factor in interfering with the normal function of the kidney. Acetic acid, undiluted, he had in these cases injected into the uterus, and was much pleased with its prompt action.

DR. J. G. BLAKE delivered a patient about a year and a half ago of a large number of hydatidiform cysts among which was a small atrophied fetus. In another case he had removed about half a bucket-full of cysts. Both cases recovered and these are the only cases of this trouble he has seen in a pretty large experience.

DR. EDW. REYNOLDS referred to the peculiar doughy feel on palpation which was quite distinctive in a case of his own. An important diagnostic point in his case was the escape of a watery, slightly bloody fluid at the catamenial period.

DR. VICKERY then showed a photograph of a double monster sent him by Dr. Fraser of Weymouth.

Dr. Vickery reported a case of

A MUCH-ENDURING FETUS.²

DR. GREEN said that the case illustrates very well how much the uterus will bear without aborting. It is never safe to infer that because sounds have been passed, the uterus has been emptied.

DR. H. C. BALDWIN, present, by invitation, then spoke on the

TREATMENT OF ABORTIONS.

He said: In March, 1889, Dr. J. P. Reynolds read a paper on the "Treatment of Abortions." In the *Medical and Surgical Journal* of June 13, 1889, a letter on the subject of the Bozeman Catheter appeared. Dr. Reynolds showed me this letter, and called my attention to the following statement of Dr. Macan which appeared in the report of the Rotunda for 1884. During this year, sixteen women were admitted for abortion, in none of whom was plugging of the vagina practised. The treatment is expectant as long as possible. If the hemorrhage is excessive before the cervix is large enough to allow the removal of the ovum, the cervix is either plugged with a tulip tent or dilated with Hegar's dilators and the ovum then removed. If there are symptoms of putrid absorption or of hemorrhage

¹ See page 412 of the Journal.

² See page 413 of the Journal.

rhage, the uterus is washed out with corrosive sublimate solution (1 to 2,000), the interior of the uterus curetted, after which the cavity is again disinfected and an iodoform suppository introduced.

Dr. Reynolds asked me, first, to show him and the Society the Bozeman catheter; secondly, to give an account of the treatment of abortion in the Rotunda.

The catheter which I have brought is one that was presented to me on leaving the Rotunda by the assistant master, and has seen much service in the hospital. I found the catheters at Codman & Shurtleff's, but the screw of the Codman & Shurtleff instrument does not slide up and down and allow so thorough a cleansing of the catheter as the one I brought with me from the Rotunda.

In regard to the treatment of abortion at the Rotunda I will read a letter from Dr. Macan who has just ended his mastership.

53 MERRION SQUARE, }
DUBLIN, February 19, 1890. }

DEAR DR. BALDWIN:—I am afraid I shall find it a little hard to give you our treatment of abortion in a short, concentrated manner, for I have never written any account of it before.

You ask if it is one of our rules never to plug the vagina. I do not think it is. We can only say that we very seldom find it necessary to do so. This is due to the fact that in the hospital some one is always on the spot, and we can plug the vagina the moment it is obviously necessary to stop profuse hemorrhage. But this enables us to omit it in all ordinary cases. In private you plug because you want to go away, and you cannot leave the patient if she has free hemorrhage. A very moderate-sized plug, if pressed into the cervix, will stop the hemorrhage. I always carry tupelo tents for the purpose. If the os is dilated, and there is much hemorrhage, I would pass in my finger as far as possible, and if I found the ovum detached, I would try to twist it off by rotating it round with my finger. If I could not do this, I would plug the ovum were still unruptured, and wash out with a Bozeman if the ovum is already broken up. If this does not get everything away, I would use Rheinstier's hollow curette, which has a hollow stem through which a stream of water is passed all the time you are curetting. Of course, if, when you are called in, you find the os well dilated and the ovum broken up, you would try and remove anything that was left behind in the uterus with the finger. The two essential things are to empty the bladder and to push the fundus down over the finger in the vagina by external pressure over the fundus. In cases of imperfect abortion with fetid discharge, we wash out first with a Bozeman, and then curette the interior of uterus. It is but rarely necessary to dilate the cervix in these cases. If it is, we can do it quickly and safely with a few of Hegar's dilators. In the early months, we try and preserve the ovum entire, to avoid leaving anything behind in the uterus.

I hope you will be able to make out our treatment from this rather confused account of it.

With kind regards to all my old friends and pupils, believe me,

Yours truly,

ARTHUR V. MACAN, M.D.

DR. G. HAVEN said that the Bozeman catheter of Codman & Shurtleff was made from one he had brought from Vienna. He regarded it as a very useful instrument, particularly for washing out the débris after curetting, the only objection being that the delivery tube is so small that it may become plugged. There is a modification of the instrument which is more easily cleaned.

DR. CHADWICK uses a simple male catheter with less curve than usual, being sure that the size of the os is larger than the catheter. He has never had any

trouble with this instrument and does not consider a double catheter, such as the Bozeman, at all necessary.

DR. EDW. REYNOLDS considered the Bozeman catheter to be of use in the treatment of the non-pregnant uterus. In the pregnant uterus he would agree with Dr. Chadwick that a simple catheter or tube is all that is needed. He had found that a tampon stops the hemorrhage in the case of an abortion and on the removal of the tampon the ovum was generally found to be expelled from the uterus.

DR. CHADWICK showed the catheter which he said he would use for washing out the uterus only after the extraction of the ovum. This he did with the fingers, forceps or sharp curette. The injection of acetic acid would stop the hemorrhage, and would not form foul clots as in the case of stypic iron.

DR. BLAKE uses Loomis' forceps which is easily converted into a curette.

DR. BLAKE had always believed that the blue tint was well-nigh infallible as a sign of pregnancy, but his faith had been recently shaken by a case where a robust girl, nineteen years old, who menstruated regularly but was afraid of pregnancy, presented a marked bluish coloration of the vagina. She was not pregnant but he found a small ovarian cyst.

DR. CHADWICK said he had never seen this coloration due to cysts, but he had seen it in a few instances in very erotic women, who were not pregnant, and he supposed that Dr. Blake's case came under this class. It is not an infallible sign; its absence does not exclude pregnancy, but its presence, when marked, is with but few exceptions a sure sign of pregnancy. The exceptions he had found to be in very erotic women.

He also reported

TWO CASES OF TUMORS COINCIDENT WITH PREGNANCY.

CHLORATE OF POTASSIUM AS A PREVENTIVE OF INTRA-UTERINE DEATH.

DR. GREEN spoke of a case in which he had used chlorate of potassium as a preventive of intra-uterine death. The patient had borne two dead children in the eighth month; and finding herself again pregnant, and wishing for a living child, she sought advice. No evidence of syphilis could be found in either parent, and there was no other apparent cause for fetal death; but it was arranged that the patient should be seen every few weeks during her pregnancy for observation and advice. During the early months treatment was directed to the alleviating of nausea, vomiting and constipation: a tonic pill of iron and quinine was given, and the patient was advised in matters of diet and personal hygiene.

Beginning at the end of the fourth month, chlorate of potash was prescribed in fifteen-grain doses three times a day. This drug was continued throughout the pregnancy, and the patient bore a large, healthy boy at full term. Whether or not the chlorate was the efficient cause in this happy result the reporter was unprepared to say. He used it on the recommendation of Prof. Simpson, of Edinburgh, and of others who had thought it efficacious in such cases in which intra-uterine death is thought to be due to non-specific disease of the placenta.

DR. EDW. REYNOLDS exhibited a specimen of

A CANCER OF THE BODY OF THE UTERUS
which he had removed by vaginal hysterectomy, and

said that the specimen was chiefly interesting in connection with the clinical history of the case. The patient sought relief for slight dyspepsia and some debility, and suspicion of the real lesion was only awakened by a routine inquiry suggested by her age, when it was discovered that although the menopause had occurred three years ago, she had twice, within the last six months, noticed a slight show of blood and was aware of disagreeable discharges, which were, however, so slight that she had not considered them worth mentioning. On examination, the vagina was found to be in a condition of marked senile atrophy and the vaginal portion of the cervix had disappeared. Abdominal and rectal examination, however, disclosed the existence of an extremely hard uterus, of rather more than the normal size, and retroverted, but freely movable. On examination under ether no involvement of the broad ligaments could be detected, and on the introduction of a curette the whole interior of the organ was found to be in a disorganized and pulpy condition.

Scrapings from the posterior wall was sent to the microscopic laboratory of the Harvard Medical School from which the following report was received:

"Microscopic examination shows a mass of epithelial cells invading the fibro-muscular tissue in all directions. Section seen by Drs. Fitz and Whitney, diagnosis, cancer."

The operation was rendered difficult by the extremely small size of the vagina, absence of the vaginal cervix, and the friable condition of the uterine body. The patient was but little collapsed after the operation and the convalescence was uncomplicated by any untoward symptom. Examination of the specimen showed no evidence that the disease had involved the external walls of the organ, and the case seemed to offer a fair prospect of radical cure.

— A characteristic circular letter has been issued by the minister of the interior in France, in which he proclaims that the attention of the government has on several occasions been called to the prevalence of puerperal fever in the practice of midwives. Thanks to the progress of science it is possible to trace these epidemics to the absence of antisepsis, which the midwives, not being physicians, officers of health or veterinary surgeons were by the law of 1846, forbidding the sale of poisons, unable to procure. After deliberation the government applied to the *Académie de Médecine* for advice. This august body replied that: (1) It was indispensable that midwives should be allowed to have antisepsics. (2) That to prevent accidents only one substance should be sold to them, preferably corrosive sublimate, in packets of uniform quantity. (3) That they should always have an antiseptic within reach. The committee on public hygiene concurred in the conclusions of the Academy. Backed by the advice of these two bodies, the president of France issued a proclamation that apothecaries are allowed to sell to registered midwives corrosive sublimate colored red, in packages of twenty-five centigrams, and an ointment containing one percent of the same substance. All prefects are ordered to publish this order and to impress on the midwives of their prefecture the necessity of antisepsis in midwifery.

THE BOSTON

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THE RESPONSIBILITIES AND LEGAL DANGERS OF COTTAGE HOSPITALS.

COTTAGE Hospitals are becoming quite popular in communities not large enough for hospitals of different construction and management. Their blessings are obvious, but little is thought of their defects and dangers. At the recent railroad accident at Quincy, Mass., the hospital at that spot proved a great boon, as was abundantly recognized. But there are rumors to the effect that an obvious defect in the hospital was manifested in the want of a responsible head, and that little misunderstandings as to responsibility and duties did not become serious, simply because of mutual forbearance. It did show that serious difficulties may arise over the assignment of patients where there is no authority to assign, and that a system which works well where the requirements are simply those of everyday life may prove deficient when put to the test of extraordinary emergencies.

Another incident serves to emphasize the fact that the responsibilities of larger hospitals for the results of treatment are also attached to the cottage hospitals of smaller centres. An interesting suit for malpractice has recently been brought against the Newton Cottage Hospital of which the details are as follows:

The patient entered the Newton Cottage Hospital on November 24, 1888, as a charity patient, with a fracture of the tibia of the right leg at the external malleolus and with a compound comminuted fracture of both tibia and fibula at the junction of the middle and lower thirds of the left leg. The upper fragment of the fibula was thrust directly through the comminuted portion of the tibia and the skin on the inner aspect of the leg and even penetrated the trousers. The anterior tibial artery was also divided.

One of the surgeons was called and the patient was told of the severity of his accident. Under ether, the projecting bone was removed to the extent of half an inch (for in no other way could the fibula be replaced), the artery was tied, and a drainage-tube was inserted. The leg was then straightened, and placed on a posterior

Levis splint, and an anterior felt splint was applied. Careful antiseptic precautions were followed.

Patient and family were carefully instructed as to the danger to which the leg was exposed. However, the case did well. The right leg was finally put in plaster, and the result was very satisfactory.

The left leg, with its compound fracture, was the one which caused the subsequent trouble. There was no suppuration to speak of. The patient was delirious much of the time during the first week; but the leg was kept in good position without much difficulty. On the eighteenth day (December 12, 1888) it was placed in plaster, and it was straight (as affirmed by the defendants). A fenestrum was left in the plaster over the healing wound.

On January 1, 1889, the surgeon's service ended and the patient came under the care of another member of the staff. The second surgeon removed the plaster on February 20, 1889. He found a straight leg with a large callus over the site of fracture. He replaced the leg in plaster. At his own request the patient was sent home. Strict injunction was given him as to the care of the leg; and particularly was he told not to have the plaster removed by any one, other than one of the hospital staff and not earlier than May 1, 1889. He was also told by the second surgeon that some kind of support must be kept on his leg for months as the union was plastic and might remain so for a long time.

Notwithstanding this, the patient had the plaster removed by a fellow carpenter some time in April, 1889, and two weeks later returned to the hospital with the leg bent outwards at the seat of fracture.

Suit was brought by the patient against the surgeon who had charge of the case during the first five weeks, and against the second who had charge of the case for about three months, and against another practitioner who saw the case once in consultation. The damages claimed were \$20,000. After nearly a year's delay, the case was called, in the superior court at Cambridge, under Judge Dunbar. The plaintiff alleged that the left leg was never properly set, and that it was never straight. The plaintiff's wife, daughter, sister and fellow carpenter testified that they had seen the leg at various times during its treatment at the Newton Cottage Hospital, and that it was always crooked. After the case of the plaintiff was all in, the presiding judge directed the jury to find for the defendants, which they did without leaving their seats.

The case seems to have been treated with care, in full recognition of the grave character of the injuries, which were of so serious a nature as to make the preservation of the limb a doubtful matter; and the result, in the opinion of experts who examined the case, is a serviceable leg. In short we have the same old story, too often repeated, of a serious injury, in itself of such a character as to preclude a perfect result; months of care followed by recovery, with a leg which in view of the injury is, at least, no discredit to the surgeon, and as compared with the wooden leg which the patient should have expected, probably much more

serviceable; ingratitude on the part of the patient, who holds his doctor responsible for an imperfect result, when he should be grateful that his life has been preserved.

It is evident that cottage hospitals must be prepared to face ingratitude; and in planning for the establishment of such hospitals, proper provisions must be taken to meet the legal responsibilities incurred alike by small and large hospitals. It is doubtful if either doctor or charitable institution could be found that would desire to escape legal responsibility; but if the spirit that influenced the plaintiff in this case is general in our smaller cities, the time is not yet ripe for the general introduction of cottage hospitals.

SOME NEW CLINICAL EXPERIMENTS WITH DIURETIN.

KORITSCHONER has recently made numerous clinical trials at the Medical Clinic of Professor Schröter, of Vienna, with the new diuretic, *diuretin*, which is a mixture of sodium salicylate and theobromine. These experiments pertained to thirty-eight cases of general dropy. Ten of these were cases of cardiac dropy from chronic valvular disease; twelve were cases of dropy from Bright's disease in some stage; in six the general anasarca was due to dilatation of the heart following emphysema or arterio-sclerosis; in four the cause of the dropy was degeneration of the myocardium; in three it was hepatic cirrhosis; in two it was tuberculosia of the lung and serous membranes, and in one cancer of the liver.

The formula which Koritschoner uses is as follows:

Salicylate of soda and theobromine,	4 to 8 grammes.
Warm water,	" 150 " M.
Dose, a tablespoonful every hour or every two hours.	

Diuretin should be given in rather large doses; little benefit can be expected from less quantity than four grammes (sixty grains) a day; ordinarily to get the full advantage of the drug, medium doses amounting to five or six, and maximum doses amounting to eight or ten grammes, in the twenty-four hours should be administered.

Diuretin is generally well supported, even when its use is prolonged for months. It rarely causes nausea, even in chronic Bright's disease when the appetite is gone, and but little food is tolerated. It does not cause vertigo; in rare instances patients complain of palpitation and temporary cardiac distress. Sometimes diuretin provokes diarrhoea.

As a result of these trials by the Vienna physician, the salicylate of soda and theobromine was found to be a very powerful diuretic, and in only five cases did it prove to be without action; these were cases of chronic Bright's disease, arterio-sclerosis with fatty myocardium, tuberculosia of the lungs and serous membranes — all had arrived at the last degree of cachexia, and succumbed a few days after their admission to the hospital. In ten other cases, the action of the salt was much superior to that of digitalis, acetate of potash,

and all other diuretics that had been administered, though but moderate benefit followed the administration of the remedy. In the majority of the patients, (twenty-three out of thirty-eight), the effect obtained was excellent, the dropsical effusions rapidly disappeared, and general amelioration followed. There is even danger that under the influence of the abundant diuresis caused by the drug, the ascites and oedema may disappear so speedily as to cause dangerous collapse. On this account, Koritschoner urges that in cases of abundant effusions, the remedy should be given with considerable caution; he would, in fact, advise always to begin the treatment by a dosage of four grammes a day, and if this quantity makes no sensible increase in the urine, it may be augmented by one gramme a day till a sufficient result is obtained.

The diuretic action of this medicine is said to be more marked in cardiac dropsies than in renal or hepatic, yet it may render precious service in chronic Bright's disease. In fact, in this disease where all the ordinary diuretics are apt to fail, the quantity of urine excreted often becomes augmented five or six times under the influence of the salicylate of soda and theobromine. In some cases of Bright's disease, the remedy seems to exert its principal action on the intestines, producing an abundant serous diarrhoea, which in a very short time causes the oedema to disappear, without too great enfeeblement of the patient.

According to the researches of Schröder and Gram, the diuretic effect of the salicylate of soda and theobromine is due to the excitant action of the drug on the renal epithelium. As the epithelium is the principal seat of lesion in chronic parenchymatous nephritis, it might be feared that diuretin would be injurious in Bright's disease. The observations of Koritschoner show that this fear is not well founded, and that diuretin excites the renal functions without irritating the kidneys. Thus, in two cases of acute scarlatinous nephritis when Koritschoner gave diuretin in large doses, the patient recovered with astonishing rapidity, and without any complications. Under the influence of the medicament, the blood corpuscles and hyaline casts were seen from day to day to disappear from the urine. This same favorable action of diuretin on the nephritic processes has also been noted in chronic Bright's disease.¹

The new drug has not as yet—as far as we have been able to ascertain—been much introduced into this country, and as theobromine is very expensive, and as the cost of a drug is an important item in the economies of many physicians and their patients, it is doubtful whether many serious trials will be made with diuretin for some time to come.

—The French journals recommend, as a simple method of obtaining local anaesthesia of the skin, playing the contents of two or three syphons of soda-water upon the spot to be operated on. The anesthesia lasts about five minutes.

¹ Wiener Klin. Wochschr., September 25, 1890. Semaine Médicale, October 15, 1890.

BERI-BERI ON FISHING VESSELS FROM THE GRAND BANKS.

A SERIES of about twenty cases of probable beri-beri, eleven occurring in one vessel, is reported by Dr. W. S. Birge, of Provincetown, as having landed at that port, during the past week, from the fleet returning from the Grand Banks. The cases are similar to the series of seven, occurring in his practice, reported as originating at the same place a year ago, to which reference was made by Dr. James J. Putnam in a paper which appeared in the JOURNAL of September 11, 1890. These cases seem to be increasing, and are apparently due to the diminishing thoroughness with which some vessels are got ready for sea.

We hope to publish a full report of Dr. Birge's cases in an early issue.

MEDICAL NOTES.

—It is reported that the sum of \$100,000 having been raised for the purpose of founding a medical college in connection with the Johns Hopkins University, into which women would be admitted, and having been placed at the disposal of the university trustees, the latter have decided to invest the money, and when, through interest and other additions, it has reached \$500,000, it will be used for the purpose proposed.

—The Paris correspondent of the *Chronicles* states that Sister Rose Gertrude is about to return to Europe and resume her occupation as accountant in a Paris house of business. She will also, we are gravely informed, in the intervals of her employment, fill up her spare time by continuing "her researches for the cure of leprosy." What the young lady's qualifications may be for engaging in so difficult a branch of medicine, it is not easy to say; but that a question which has long engaged the attention of men fitted by laborious training for such pursuits, can be solved by a young-lady bookkeeper in her spare time, passes our capacity for believing.—*British Medical Journal*.

—The German Congress of midwives has decided to petition the Empress and the government to alter the official designation of a midwife from "Hebamme" to "Geburtsshelferin."

—The little island of Heligoland is an exceptional bit of territory in many respects, amongst others in this, that never in the recollection of the "oldest inhabitant" has it been the seat of professional jealousies. Why is it so favored? Because only one medical man (dentist, surgeon, general practitioner all in one) is to be found the length and breadth of the island. No sooner, however, had Germany taken possession of her new appanage than this delightful state of things seemed destined to come to an end. An announcement appeared in the *Heligoland Gazette*, stating that a second German M.D. would shortly take up his residence in the island. Of course, the Heligoland doctor was up in arms at once. He appealed to the new governor, quoting the Emperor William's dictum that the rights and privileges of the Heligo-

landers were to be respected and to remain unchanged "for the present," and the result is a decree leaving him in undisturbed possession of the sole right of practice in the island.

— At the meeting of the Michigan State Board of Health, at Lansing, October 14, 1890, the following preamble and resolutions were adopted :

Whereas, It is agreed by all classes of people that the public health would be much better protected if none but properly qualified persons were permitted to practice medicine, and thus to have in their keeping measures relative to life and death,

Resolved, That it is believed to be practicable, through judicious legislation, to so organize the present legal medical practitioners in Michigan, so that through representatives elected by themselves, they shall guard the entrance to the profession, by a preliminary examination of students, and a final examination of graduates of colleges and of proposed practitioners who come from other States, so that the entire medical profession of this State shall be united in the effort to improve the qualifications of its new members.

Resolved, That the secretary of this Board be directed to transmit a copy of the foregoing preamble and resolution to the chairman of the committees on public health in the Senate and House of Representatives in the State Legislature as soon as it is in session.

— The Lycoming (Pa.) Medical Society must treat its guests remarkably well. One of them writes to the *Sunbury Daily* as follows :

"Those of the Sunbury physicians who attended the Lycoming County Medical Society on Monday, will long remember the event as one of those profitable rests that come occasionally to make cheerful the routine meter of their trying and responsible experiences. There is something about the meeting together of an organized body of scientific physicians for the betterment of mankind that is impressive and august. Unhampered by any shackles; untrammeled by the ignorance of a bigoted past; unsworn to the sheening fatuous distorted into being by illusions of dreamers and fostered by nursed delusion, when an assembly of physicians meet to-day, conscious of their freedom, ready for the possible, and competent to meet the exigencies of rushing progress — be it to lace the smile of God's sunshine or to chain the essence of his storm-clouds to their purpose and assistance — they embosom all the sciences used by other men, weave them into the woof of their pristine intent, and, standing in closer communion with the Planner of them all than is possible for His other creatures, reflect them out again into intelligent channels to do good unto even 'the least of these' — the suffering and needy. It is thus that the lectures of Professor John B. Roberts, of Philadelphia, will bless the entire people of the West Branch Valley, when his brilliant suggestions are used in the work of his many admirers."

— We have received from a correspondent an account of the Sixteenth Annual Session of the Mississippi Valley Medical Association, which was held in Louisville, Ky., October 8th, 9th and 10th, 1890. The meeting was one of the largest and most successful of the many meetings of that character in the history of the Association. The physicians were entertained at a reception given by Drs. Yandell and Rob-

erts; a reception at the Galt House, followed by an elegant banquet; and a number of private dinners and entertainments. The visiting ladies had several entertainments arranged in their honor — receptions; an interesting excursion to the Blind Asylum, where a concert was given by the pupils; gymnastic exercises, etc. The social arrangements were admirable, and the Kentucky belles captured more than one bachelor doctor.

The address of Dr. John Wyeth on "The Medical Student" was a masterly effort, full of wit and wisdom. Professor Wyeth graduated at Louisville, and the citizens vied with the profession to do him honor. His operation of bloodless amputation of the hip-joint was witnessed by a large number of medical men and students at the Medical Department of the University of Louisville. Dr. Wyeth dwelt at length on the value of practical work in the acquisition of a knowledge of anatomy. He said he could shut his eyes and pick out the best men of the class by the sense of smell alone. It takes a sublime enthusiasm to enable one to forget the disgusting stench of decomposition in his efforts to master the magnificent labyrinth of bones and muscles, nerves, brain, arteries, veins and organs which you have brought here with you to-night. He favored two sessions of purely clinical didactic teaching and a third in which the instruction would be purely clinical. Too much time he thought was usually given to chemistry. For the practice of medicine, surgery, etc., a limited knowledge of the subject is all that is necessary, and that should be learned principally in the laboratory. Three months in actual practical pharmacy he thought would be of immense benefit to the student. The nearest approach to the ideal clinical training he considered to be service as interne in a large general hospital. Dr. Wyeth, who had his first medical practice in the mountains of Tennessee, Alabama, and the swamps of Arkansas, said that the Southern doctor could hold his own in the land of the golden calf. As proof he cited the names of Marion Sims, Emmett, Thomas, Metcalfe, Bozeman, Polk, Wiley, Gibney, Gray, Dew.

The Convention passed a unanimous vote thanking its officers for their very efficient and successful work in bringing the meeting to a successful termination. A report of the proceedings will be found on page 417 of the JOURNAL.

BOSTON AND NEW ENGLAND.

— At a dinner of the Beacon Society last Saturday Dr. S. H. Durgin spoke at length of the sanitary condition of Boston. Remarks were made by Dr. J. H. McCollom, Dr. J. C. Warren, and Professor Parker of the Institute of Technology.

— The British steamer *Arisaig* arrived at this port a few days ago from Havana in charge of the first mate, the captain having died of yellow fever last week during a heavy gale. The steamer was detained at quarantine and fumigated. The steward was also sick on board with fever, but is recovering.

— The captain of the whaling barque *Petrel*, indicted for neglecting to provide his seamen with anti-scorbutics, under the United States laws, was recently discharged from custody by Judge Nelson, not for want of evidence to convict, but because of a legal technicality. The judge said, that, much as he regretted to find that the seamen on our whaling vessels are without the protection that is given by law to other sailors, he must decide that the statute of 1874 having been repealed by the statute of 1878, it could not be revived by the statute of 1884. "We have to take the law as we find it," he said, "however unjust it may seem; and I can find no statute in force making it a criminal act for the captain of a whaling vessel not to carry anti-scorbutics. I must, therefore, instruct you, gentlemen of the jury, to find the prisoner not guilty."

— *Transcript.*

— The Mayor of Somerville expresses the utmost confidence that the necessary subscriptions to insure the proposed new city hospital of that city will be received by next week, or in ample time to take advantage of the special and conditional offer of \$10,000. At the time the last report was made, there were about \$3,000 to be raised.

— It is reported that an effort will be made during the present session of the Vermont legislature to incorporate various kinds of alleged medical colleges.

NEW YORK.

— The following officers were elected by the New York State Medical Association for the ensuing year: President, Dr. Stephen Smith, of New York; Vice Presidents, Drs. A. F. Van Vranken, of West Troy, J. D. Tripp, of Auburn, and R. J. Menzie, of Caledonia; Secretary, Dr. G. D. Ferguson, of Troy. Dr. J. H. Hinton refused to accept another nomination as Treasurer, and the position was left temporarily vacant.

— The Hospital Saturday and Sunday Association held its first meeting for the season on October 20th, at St. Luke's Hospital. A special committee, consisting of the Rev. G. S. Baker, the Rev. Thomas M. Peters, D.D., and Dr. Richard H. Derby, which had been empowered by the Association to offer prizes of \$100 and \$50, respectively, for the best and second best hymn suitable to be sung in the churches and synagogues on Hospital Sunday and Hospital Saturday, made their report, awarding the first prize to Miss Harriet McEwin Kimball, of Portsmouth, N. H., and the second prize to Miss Emily Vernon Clark, of New York.

— The first reception of what is known as the "Students' Movement" was given on Saturday evening, October 18th, at the Assembly Room of the Metropolitan Opera House, to the new members of the colleges and professional schools of the city. Eighteen institutions were represented by a large body of students, and addresses were made by Dr. Harry McCracken, of the University Medical School, Dr. F. D. Weisse, of the New York Dental College, Dr. A. A. Smith, of Bellevue Hospital Medical College, and others. On

the following evening there was a students' meeting at the same place, which was addressed by Prof. Wm. H. Thomson, of the University Medical School.

— The corner-stone of the new Children's Hospital at Albany was laid with suitable ceremonies on October 18th, by Bishop Wm. Croswell Doane. In 1879 this institution was established under the name of St. Margaret's Home, but for several years the accommodations have been inadequate for the work that has developed. The handsome new hospital, which is one of the charities connected with All Saints' Cathedral, is to cost \$50,000, and the plans are by Mr. Robert W. Gilson, the architect of the Cathedral.

— The fourth annual meeting of the New York State Medical Association was held at the Mott Memorial Hall on the 22d, 23d, and 24th of October, and was opened by the President, Dr. John G. Orton, of Binghamton, Broome County, in an address on "The Medical Profession as a Public Trust." A very large number of papers were read, and special features of the session were elaborate discussions on Intra-cranial Lesions and Obstetrics. The first embraced the means of locating intra-cranial lesions, the nature and discrimination of such lesions, the indications and contra-indications of operative interference, the best modes of operating, and the immediate and remote results of operative treatment. The discussion on Obstetrics embraced the more extended application of prophylactic measures, the management of labor and convalescence in accordance with sound physiological principles, the question of surgical interference in labor complications, and the question, What influence would a more advanced obstetrical science have on the biological and social conditions of the race? The JOURNAL will publish a report of the proceedings.

Miscellany.

PREGNANCY AFTER THE REMOVAL OF BOTH OVARIAS.

DR. J. ANDERSON ROBERTSON, in the *British Medical Journal* of September 27, 1890, reports the case of a woman, of twenty-three years of age, who menstruated regularly, and became pregnant nine months after the removal of both ovaries.

The patient was first seen on May 4, 1888. She began to menstruate at thirteen and one-half, and was regular (three or four days, quantity moderate, pain day before and on first day, occasional clots) until three years and a half ago, when she began to be irregular. From this time the quantity became less and less, and the length of time between the periods became greater until September 14, 1887, since which date she has not menstruated. The pain during these three years and a half has continuously increased in strength and duration until now, when, she says, "I am never free from it." It extends from both ovarian regions round to the top of the sacrum, and is always worst in the left ovarian region. For some time past, the patient has been "spitting blood every day"; at times merely a trace, but occasionally as much as

"three tablespoonfuls" of bright red blood. Constant leucorrhœa; bowels loose; micturition normal. Patient is a warehouse girl, and has to support a younger brother and sister; but latterly has not been able to work regularly. She is pale and ill-looking, and very thin.

On examination both ovaries were found to be enlarged and very tender. As some of patient's friends objected to surgical interference, medicinal treatment was again tried.

In January, 1889, patient came back, saying that she was quite unfit for work, and that she would rather die than live in such constant pain and misery. Her friends were now willing to have anything done, and agreed to the utter futility of further treatment by medicines.

On January 29th, both ovaries were removed. The left was much enlarged and cystic. The right was also considerably enlarged, with the capsule much thickened, affording evidence of a long-continued ovaritis. The patient made an uninterrupted recovery. Her temperature never rose above normal, and her pulse was only once above 80, namely, on the evening of the day after operation, when it reached 90. She rapidly improved in health and appearance; the pain entirely ceased, as did also the "spitting up" of blood; and she soon got plump and well-looking.

On April 25th she began to menstruate (four days, quantity moderate, no pain). Normal and painless menstruation for a like period again took place in May, and continued regularly until October. In June she married, and in September was looking strong and well, and feeling, as she said, "better than I have been for years; indeed, I am quite well and happy." She ceased menstruating on October 25th; and on August 13th, 1890, was confined. The child (a male) was twenty-four inches long, and weighed nearly ten pounds. The labor — a difficult and protracted one — had to be terminated by the aid of forceps, and the child, unfortunately, was stillborn. The mother is doing well.

From this very interesting case the author emphasizes the following facts:

"(1) The truth of Mr. Lawson Tait's teaching regarding the starting point of menstruation, namely, that the ovaries are not causative of it. In fact, in this case the presence of the diseased ovaries prevented it, and when they were removed normal menstruation followed.

"(2) The possibility of vicarious menstruation. The woman had brought up blood daily for months, but this ceased after removal of the ovaries, that is, when normal menstruation became possible, and it has not recurred.

"(3) The proof that removal of both ovaries does not necessarily render a woman impotent. (An interesting medico-legal discussion might be raised on this point.) I was not aware of leaving any ovarian tissue. Indeed, my aim was to extirpate the ovaries thoroughly, and I thought I had done so. I suspect, however, that a small portion of healthy ovarian tissue had reached up to or beyond the hilus of the right ovary, and that this may have taken on regular ovarian functions. This, of course, is merely conjecture.

"(4) That in performing double oophorectomy, excepting in cases of uterine fibroid, any apparently healthy portion may perhaps be left. I shall, at all events, keep this in mind in future operations."

THE POISON OF BACILLI.

BRIEGER and Fraenkel¹ have successfully isolated and studied the poisonous substance formed by the action of certain bacteria. Without describing their biological or clinical work, it is sufficient to say that the substances so isolated from cultures of bacilli from, for instance, twenty-two cases of diphtheria, produced the same general toxic symptoms as are found in the disease. The formation of a membrane is seen only in the presence of the bacteria themselves. This poison is chemically an albuminoid substance similar to serum albumin. Similar poisons are produced by other bacteria, noticeably those of typhus, cholera and tetanus, and are called by the authors toxalbumin. They differ somewhat from each other in their solubility in water, and probably in their toxic action. They are similar to certain animal poisons, such as that obtained from the cobra. When a culture of bacilli has become physiologically inert, it is found that this poisonous albumin has given place to a similar one which is non-poisonous.

Correspondence.

UNNECESSARY NOISE AN AVOIDABLE EVIL IN CITIES.

BOSTON, October 25, 1890.

MR. EDITOR: — Any one who is familiar with the novels, or with some of the histories of the last century, knows how horribly dirty were its large cities, how offensive to smell, and dangerous to health. The farther back one goes, the worse becomes the record of filth; but by the eighteenth century, at least, there is evidence that the advantage of "pure country air" was recognized; and by to-day, the best cared for cities are much more decent and salubrious than quite small places where less care exists. Although a thinly settled community produces less dirt than a thickly massed one, yet it is possible, by care, in avoiding what is not necessary, to reverse the natural conditions, and the advantage being recognized this care is sometimes taken.

With regard to noise, the conditions are different, different, as I believe, only in that the nuisance and harm are not recognized, alike in that much of the noise that attends the concentration of mankind in large cities is avoidable, and also alike in that it is often a nuisance and sometimes a danger. It is true that the nuisance and danger are not very much recognized as yet by the community at large; but it is also probably true that the Saxon Englishman thought his more refined Norman conqueror needlessly fastidious, when he ordered citizens to cry "garder l'eau," before emptying slops into the streets from upper windows. The world moves, and most of us to-day would probably sympathize with the lawgivers of that age, rather than with those who made the law necessary; so I hope that the world will keep on moving until such quiet, as it is reasonably easy to get, shall be recognized as the right of those citizens who want it.

Within a few years the Providence Railroad regularly waked up all the poor sleepers of the South End with three or four prolonged whistles, as the New York night train approached the Albany crossing. This was supposed, if I remember, to guard against collision, but combined action on the part of some of the distressed caused the whistling to stop, and I believe there has been no collision in consequence. Our horse-cars, however, have for a generation jingled a bell for six days out of seven, to give warning that they were coming, while, for about the same time, it has been proved on one day of every week that the

¹ Berliner Klin. Wochenschrift, No. 11, 1890, and Centralblatt f. Klin. Med., No. 36, 1890.

warning was not needed. How many sick people has that jingle kept awake on summer nights? The horse-cars are going. The electric-cars are coming. Is their gong needed at night? A gong is certainly noisy. It is to many ears an especially irritating noise, and one would think that a car, which when at speed can be heard for one or two blocks away, does not need any extra noise to make its presence known. It is probable enough that we might get rid of it were the case properly stated to the company. Our milk wagons commonly use a loose box, allowing the wheels to rattle like an old-fashioned stage coach, and making ten times the noise of hack wheels. They pass through the streets when most of us are asleep, and I myself am wakened by them many times in every month. It would not cost much to supply them with noiseless boxes, but it will not be done until public opinion demands it. Peddlars crying their wares are entirely unnecessary. If they serve as a check on the prices of stores, it would still be quite possible to make known one's wants of them by cards in the windows, as is done in some neighborhoods for ice men.

Yet these same hucksters are a torture to invalids with aching heads. In one German town I know that the buglers of the garrison were, a few years ago, obliged to do their practising on an island about two miles from the city, and I have been told that in at least two others piano practise is illegal, except between definite hours. That law would be a blessing to many an invalid, if it could be enforced here during the months of open windows.

The readers of a medical journal probably do not need to be reminded of the nuisance to all and the occasional great distress and danger to the sick from one or another of these causes, but perhaps we do not all appreciate the ease with which relief can be got, as soon as the community chooses to do so. The Board of Health would seem to be a proper body to systematically set about the work, and it is, to my mind, a duty which we owe to our families and our patients, to quietly do our part in creating a sentiment that would warrant a Board of Health in attacking this evil.

Very truly yours,

EDWARD M. BUCKINGHAM, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 18, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	618	235	16.16	15.52	3.20	21.32	2.24
Chicago	1,100,000	348	126	20.88	8.19	5.70	2.90	6.38
Philadelphia	1,061,277	321	—	11.47	—	3.72	2.48	2.79
Brooklyn	852,467	342	137	20.88	11.60	6.67	6.09	1.45
St. Louis	580,000	162	45	18.20	9.75	1.95	10.40	5.20
Baltimore	500,343	166	50	18.60	12.60	4.20	2.40	6.00
Boston	446,507	177	47	12.32	15.12	5.04	4.48	4.48
Cincinnati	325,000	97	47	20.60	10.30	9.27	5.15	5.15
New Orleans	260,000	124	43	21.06	7.29	4.86	6.48	.81
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	220,000	—	—	—	—	—	—	—
Washington	220,000	91	20	27.45	18.66	4.39	4.39	12.07
Nashville	68,513	26	8	26.95	3.85	—	15.40	11.85
Charleston	60,145	32	14	12.83	6.26	—	3.13	3.13
Portland	42,000	12	1	—	8.33	—	—	—
Worcester	84,536	14	5	21.42	—	—	14.28	7.14
Lowell	77,605	24	9	16.84	4.16	—	16.64	—
Fall River	74,351	29	12	31.05	3.45	10.35	13.80	3.45
Cambridge	69,837	20	8	30.00	5.00	—	20.00	10.00
Lynn	55,684	20	4	15.00	15.00	—	—	5.00
Lawrence	44,559	23	13	34.80	4.35	—	17.40	13.05
Springfield	44,164	14	6	28.56	7.14	—	7.14	—
New Bedford	40,705	13	5	30.76	15.38	7.69	23.07	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,529	—	—	—	—	—	—	—
Salem	30,735	—	—	—	—	—	—	—
Chester	27,850	14	5	7.14	21.42	7.14	—	—
Haverhill	27,322	9	4	11.11	22.22	—	11.11	—
Brookton	27,278	—	—	—	—	—	—	—
Taunton	25,389	3	0	—	33.33	—	—	—
Newton	24,375	8	2	—	—	—	—	—
Malden	22,984	5	2	—	—	—	—	—
Fitchburg	22,007	5	2	40.00	20.00	—	—	—
Gloucester	21,262	3	1	—	—	—	—	—
Waltham	18,823	4	1	25.00	—	25.00	—	—
Pittsfield	17,285	2	1	50.00	—	50.00	—	—
Quincy	16,711	6	3	50.00	16.66	—	16.66	16.66
Northampton	14,861	—	—	—	—	—	—	—
Newburyport	13,914	5	3	60.00	—	20.00	20.00	20.00
Woburn	13,491	—	—	—	—	—	—	—

Deaths reported 2,744; under five years of age 858: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 478, consumption 290, acute lung diseases 261, diarrhoeal diseases 155, diphtheria and croup 126, typhoid fever 87, whooping-cough 35, malarial fever 29, scarlet fever 22, cerebro-spinal meningitis 11, measles 8, puerperal fever 3, erysipelas 2.

From whooping-cough: Brooklyn 10, New York 6, Baltimore 4, Chicago 3, Philadelphia, New Orleans and Springfield 2 each, St. Louis, Boston, Charleston, Lawrence, Fitchburg and Quincy 1 each. From malarial fever: New Orleans 9, New York 8, Baltimore 5, Brooklyn 4, Philadelphia 2, Charleston 1. From scarlet fever: Brooklyn 7, New York, Chicago and Philadelphia 4 each, Washington, Lynn and Fitchburg 1 each. From cerebro-spinal meningitis: Washington 3, Chicago and Brooklyn 2 each,

New York, Baltimore, Cincinnati and Lynn 1 each. From measles: New York 1, Chicago 1. From puerperal fever: Washington 2, Springfield 1. From erysipelas: Boston and Fall River 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending October 4th, the death-rate was 19.3. Deaths reported 3,590: infants under one year of age 1,173, acute diseases of the respiratory organs (London) 362, diarrhoea 371, measles 74, scarlet fever 61, fever 58, diphtheria 49, whooping-cough 40.

The death-rate ranged from 10.3 in Derby to 34.3 in Preston, Birmingham 16.7, Bradford 23.1, Hull 18.8, Leeds 19.9, Leicester 15.5, Liverpool 22.0, London 16.7 Manchester 30.6, Nottingham 18.7, Sheffield 25.6, Sunderland 26.0.

In Edinburgh 19.0, Glasgow 19.1, Dublin 19.4.

The meteorological record for the week ending Oct. 18, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom. eter.	Thermometer.			Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.
		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	
Saturday, Oct. 18, 1890.	Daily Mean.	49.0	56.0	42.0	63	68	65.0	N. W.	N. W.	16	12	G.	
Sunday.. 12	29.92	49.0	56.0	42.0	63	68	65.0	N. W.	S. W.	7	5	G.	
Monday.. 13	30.01	48.0	57.0	39.0	81	57	60.0	N. W.	S. E.	2	7	O.	
Tuesday.. 14	29.79	48.0	54.0	41.0	71	97	85.0	N.	S.	7	7	E.	0.08
Wednesday.. 15	29.92	54.0	62.0	47.0	77	72	75.0	W.	W.	11	10	C.	0.21
Thursday.. 16	30.11	59.0	70.0	48.0	75	81	78.0	W.	S. W.	8	7	F.	
Friday.. 17	29.48	55.0	58.0	52.0	97	69	83.0	E.	N. W.	27	6	O.	0.79
Saturday.. 18	29.92	54.0	61.0	48.0	72	84	78.0	W.	S. E.	13	7	G.	0.61
Mean for Week.													

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 18, 1890, TO OCTOBER 24, 1890.

Leave of absence for one month, on surgeon's certificate of disability, is granted Assistant Surgeon N. S. Jarvis, S. O. 167, Department of Arizona, October 14, 1890.

By direction of the Secretary of War, leave of absence for four months is granted Captain James E. Pilcher, assistant surgeon. S. O. 244, Par. 12, A. G. O., October 18, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING OCTOBER 25, 1890.

F. J. B. CORDEIRO, passed assistant surgeon, detached from U. S. S. "Nipic," and granted three months' leave of absence.

A. C. HEFFENGER, passed assistant surgeon, placed on the retired list October 20, 1890.

SOCIETY NOTICES.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY. — There will be a Meeting of this Section at 19 Boylston Place, on Wednesday evening, November 5th, at 8 o'clock.

Communications: Dr. R. W. Lovett, "Hydrocele in Children, with a Report of Cases." Drs. E. G. Cutler and M. H. Richardson, "A Case of Digital Dilatation of the Pylorus for Cicatrical Stenosis." GEORGE H. MORRIS, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at 19 Boylston Place, on Monday evening, November 3d, at 8 o'clock.

Readers: Dr. Joseph Sedgwick, "Cerebral Tumors with Clinical Cases." Dr. F. E. Bundy, "A Report of Two Cases of Diphtheria." T. F. SHERMAN, M.D., *Secretary.*

OBITUARY. CHARLES EDWARD SPRING, M.D., M.M.S.S.

Dr. Charles Edward Spring, of Holliston, Mass., died on Saturday, October 25, 1890. He was born in Grafton, Vt., March 19, 1842, and graduated from the Albany Medical College in 1865, serving as assistant surgeon in the army in 1866. He practiced in Jamaica, Vt., until 1874, when he removed to Holliston. He served as Representative to the General Court in 1888 and 1889.

BOOKS AND PAMPHLETS RECEIVED.

Paraneuric Cysts. By Robert Abbe, M.D. Reprint. 1890. The Medical News Visiting List for 1891. Philadelphia: Lea Brothers & Co.

Homonymous Hemispheric Hallucinations. By Frederick Peterson, M.D., New York. Reprint. 1890.

Abstract of the Health Laws of the State of Maine. Compiled by the State Board of Health. 1890.

Latin as a Compulsory Qualification in the Medical Student's Preparatory Education. By A. J. Howe, M.D.

A Rare Form of Intestinal Strangulation by a Band. By Robert Abbe, M.D., Surgeon to St. Luke's Hospital, etc. Reprint. 1890.

Text-Book of Materia Medica for Nurses. Compiled by Lavinia L. Dock. New York and London: G. P. Putnam's Sons. 1890.

The Medical Student's Manual of Chemistry. By R. A. Wittman, A.M., M.D., etc. Third edition. New York: William Wood & Co. 1890.

A Manual of the Practice of Medicine. By Frederick Taylor, M.D., F.R.C.P. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

Diagnosis and Operative Treatment of Gunshot Wounds of the Stomach and Intestines. By N. Senn, M.D., Ph.D., of Milwaukee, Wis. Reprint. 1890.

Progressive Exercises in Practical Chemistry. By Henry Lehmann, M.D., Ph.D.; and William Bean, M.A. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1890.

The Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D., with an Introduction by L. E. Sayre, Ph.G. Philadelphia: P. Blakiston, Son & Co. 1890.

Functional Albinismus; or, Albinismus in Persons Apparently Healthy. By William B. Davis, A.M., M.D., of Cincinnati. Cincinnati: Robert Clarke & Co. 1890.

A Compend of Human Anatomy, including the Anatomy of the Viscera. By Samuel O. L. Potter, M.A., M.D. Fifth edition. Philadelphia: P. Blakiston, Son & Co. 1890.

The Treatment of Syphilis of the Nervous System. Read before the International Medical Congress at Berlin, August, 1890. By Julius Althaus, M.D., M.R.C.P. London: Longmans, Green & Co. 1890.

Proceedings of the National Conference of State Boards of Health at the Seventh Annual Meeting held at Nashville, Tenn., May 19-20, 1890. Published for the State Board of Health of Pennsylvania.

Diagnosis of the Eye. By Edward Nettingship, F.R.C.S., etc. Fourth American from Fifth English Edition, with a Chapter on Examination for Color-Perception. By William Thompson, M.D., etc. Philadelphia: Lea Brothers & Co. 1890.

The Actions of Drugs which are Believed to Conserve the Tissues: Alcohol, Tea, Coffee, Coca, Maté, Kola, Guarana, Hemp, Tobacco, Opium, etc. By Edward T. Reichert, M.D., Professor of Physiology, University of Pennsylvania. Reprint. 1890.

Saunders' Pocket Medical Lexicon; being a Dictionary of Terms and Terms used in Medicine and Surgery. By John M. Keating, M.D., Fellow College of Physicians of Philadelphia, etc., and Henry Hamilton. Philadelphia: W. B. Saunders. 1890.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, etc. Seventh edition, thoroughly revised, with fifty-one illustrations. Philadelphia: Lea Brothers & Co. 1890.

Saunders' Question Compend of Essentials of Practice of Medicine. Arranged in the Form of Questions and Answers, Prepared Especially for Students of Medicine. By Henry Morris, M.D., etc. With a very complete appendix on the Examination of Urine. By Lawrence Wolff, M.D. Philadelphia: W. B. Saunders. 1890.

Ointments and Ointments Especially in Diseases of the Skin. By John V. Shoemaker, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia, etc. Second edition, revised and enlarged. Philadelphia and London: F. A. Davis. 1890.

Original Articles.**CASE OF SARCOMA OF THE TONSIL REMOVED BY EXTERNAL INCISION: RECOVERY.**

BY JOHN HOMANS, M.D.,
Surgeon to the Massachusetts General Hospital.

Mrs. H. L., age fifty-nine, entered the Massachusetts General Hospital May 30, 1890. About eighteen months before entrance she noticed swelling and ulceration of the right tonsil, which subsided under treatment. A few months later, the swelling again returned and ulceration again disappeared. In February, 1890, the tonsil again increased in size and, as she says, "pressed farther into the throat, and she had a nervous feeling extending over the gums and jaw." Thinking this trouble might come from the teeth, she had them all removed, a proceeding which much facilitated the subsequent operation. She had no real difficulty in swallowing, but the passage of food through the pharynx was uncomfortable. In the Out-Patient Department for Diseases of the Throat, on May 20th, Dr. Langmaid cut off half the tonsil with a tonsillotome, and sent the part removed to Dr. Whitley, the Pathologist to the Hospital, who reported as follows :

"Of tonsil. Harriet L. An irregularly lobulated growth, homogeneous and medullary looking on the section surface. Microscopic examination showed a structure of relatively large round cells with fine fibrillated intercellular substance replacing the normal tonsil structure. In places there were relatively dense bands of fibrous tissue traversing the growth irregularly. The diagnosis is a round cell sarcoma."

The growth soon reappeared, and Dr. Langmaid sent the patient into the house for more radical treatment. The right tonsil was now enlarged to about twice the size of the left : it was not inflamed : projecting from its centre was a soft, red mass of about the size and color of a wild strawberry, and shaped like a pineapple.

On June 6, 1890, an incision was made two and a half inches long from the right side of the hyoid bone to the mastoid process. The fascia were divided one after another, the edge of the parotid was pushed upward, and the submaxillary gland with the tendon of the digastric muscle downward. With the point of a director, the constrictor of the pharynx and the mucous membrane in front of the tonsil were torn through. Scissors were used in the mouth to divide the pillars of the palate and the mucous membrane around the tonsil. Forceps were then introduced through the wound in the neck and the loosened tonsil pulled outward while its attachments, which were on the stretch, were divided by scissors introduced through the mouth. Only two small vessels required ligatures, a superficial branch of the facial, and a small artery in the soft palate. The split in the pharynx, which was about two and a half inches long, was united by a continuous silk suture, and a quill drainage-tube was introduced through the external wound. Dry iodoform gauze with compression was applied over the wound in the neck. The complete absence of fat and of teeth in a thin, but tough and wiry subject, made the operation extremely simple.

June 7th. Reports a comfortable night. She had

a mouth-wash of permanganate of potash, and was fed solely by nutrient enemata every four hours.

June 8th. Considerable swelling in the right pharynx, but no great discomfort.

June 9th. Took three ounces of milk every two hours, and swallowed well. The swelling in the pharynx had much diminished.

June 10th. External wound united by first intention, but little swelling; drainage-tube removed.

June 15th. Patient was up and dressed.

June 20th. The stitch in the pharynx was easily removed and the patient was discharged well.

Perhaps this operation ought to be called "Removal of the tonsil by the combined method of external and internal incision."

In 1863, Dr. David W. Cheever of Boston, Professor of Surgery in Harvard College, removed a malignant tumor of the tonsil by cutting down on it from outside the neck and opening the pharynx. So far as he could then learn, the operation was original. Subsequently, several treatises on surgery, such as Bryant's, Gross's, and others, sustained his belief that the operation had not been performed before. Dr. Cheever found later that Dr. Hueter states in the *Jahresbericht der gesammten Medicin* for 1869, that he saw Von Langenbeck operate externally and by sawing the jaw, in 1865, and that he himself performed a similar operation in the same year. Both were cases of sarcoma. Langenbeck's recovered; Hueter's died. In 1878, nine years later, Dr. Cheever operated again. In 1886, Dr. M. H. Richardson operated at the Massachusetts General Hospital, successfully, by external incision. The growth was a round-celled sarcoma. The patient recovered rapidly, and has remained well ever since. This case is reported at length in Vol. CXVIII, *Boston Medical and Surgical Journal*, February 23, 1888.

From what has been written on this subject it is evident that the prognosis of cases of removal of the tonsil is much more favorable for sarcoma than for cancer. Dr. Richardson's case and my own were cases of sarcoma, and in neither of them has there as yet been any recurrence. Dr. Richardson's patient has been well for four and a half years, and may be considered cured, but only five months has elapsed since the operation in the present case.

In order to be certain of the patient's present condition, I went to Stoughton, where she lives, and found her in excellent health. There was a firm linear cicatrix externally and in the pharynx, but no sign of return of the growth.

Butlin gives twenty-three cases of removal of tumors of the tonsil ; of these ten were operated on by external incision, and thirteen from within the mouth ; two of the former proved fatal, and one of the latter. Richardson's case and my own make the number twenty-five — twelve by external incision and thirteen from within the mouth. One case (Mr. Barker's, quoted by Butlin) was well a year after the operation. One by Dr. Gorecki (quoted by the same author) was alive and well two years later. One by Butlin himself was well four months after operation. Dr. Richardson's case is well four and a half years after operation, and mine shows not the slightest tendency to return after five months.

All these were cases of sarcoma, the other twenty cases, mostly, I presume, cancer, are all dead. So far as I know there is not a single cure of cancer of

the tonsil by operation. I think that Mr. Butlin's conclusion, that "removal of the disease through an external incision (pharyngotomy) has hitherto proved a dangerous proceeding, and has not yielded as good results as operation through the open mouth," should be qualified, for of these five recoveries, two were cases of external incision, and as the whole number is only five, there must be three of one kind and two of the other. I am, however, free to say that my patient might perfectly well have been operated upon through the mouth, but I chose the external method because I thought I could get more room, and control hemorrhage easier, and remove a healthy margin with more boldness.

In conclusion I desire to express my thanks to Mr. Butlin for the article he has written on the tonsil, as well as the obligations I am under to him for what I have learned from his work on "The Operative Surgery of Malignant Disease," one of the most thoroughly satisfactory books that well-applied observation has ever given us.

THE VALUE OF "PRIMARY ANÆSTHESIA" IN MINOR SURGICAL OPERATIONS.¹

BY F. D. HARRINGTON, M.D.,
Surgeon to Out-Patients at the Massachusetts General Hospital, Assistant in Clinical Surgery in the Harvard Medical School.

In every out-patient surgical department there is a large number of minor operations which must be performed in that department, both because of the lack of hospital accommodations and because the patient desires to go home and can be allowed to do so with safety. There are two important reasons why operation without anesthesia is undesirable. First, because it gives unnecessary pain; and second, because the operation is likely to be less perfect and less thorough.

Nitrous oxide is rapid and safe, but the duration of its effect is so short that it is not desirable for minor surgical operations. Chloroform I have never used either for brief or prolonged anesthesia. Cocaine is of great value in many cases, but it is not without danger and it not infrequently fails.

Profound ether anesthesia is not desirable for the work for several reasons. It requires much time and previous preparation of the patient. The recovery is tedious, often requiring many hours. Nausea and vomiting are not infrequently greatly prolonged.

The rapidity of the appearance and disappearance of the anesthetic effect of ether first struck me during its use for the pains of child-birth. It is here that the woman feeling the approach of the pains, seizes the sponge and with a few rapid breaths is almost completely relieved of her pain. Her consciousness returns immediately if the ether is judiciously used.

Making use of this "primary anesthesia," as it has been called, I have operated on several hundred patients during the last three years. I have never seen any ill effects from the use of ether in this way.

During a portion of last year's service I tabulated forty successive cases with the following results: thirty-five successful, three partially successfully, two failures. By failure I mean that the patient felt the operation,

and complained of the pain, either at the time or afterward.²

The method of procedure which I have adopted is about as follows: As far as is possible in a short time, the confidence of the patient is gained. They are told that a few breaths will make them insensible to pain and that in a few minutes they will be in a condition to go home. Women and children are, as a rule, less alarmed if they are allowed to inhale the ether in a sitting posture. The effort of keeping erect takes the attention and the position is less suggestive of complete helplessness. This is not a desirable position for strong men unless they are held in by a strap. It is well always to have assistants at hand, although a large number of cases might easily be handled alone. An ounce or more of ether is poured on a sponge or towel. This is given to the patient with directions to breathe rapidly and deeply.

It is important to teach the patient how he is to breathe before applying the ether. I tell them to breathe as a dog pants. The rapid and moderately deep breath I think is the best one, not only for rapid primary anesthesia, but also for the induction of profound anesthesia. It is a well-known fact that rapid breathing of air itself produces a certain degree of anesthesia. Another reason for rapid breathing is that there is a tendency to continue any muscular act in an automatic way after consciousness of the act has ceased. We see this in the repeated use of certain words or phrases, or the continuance of a motion of the leg or arm. I often see patients wholly unconscious of pain breathing at the rate of forty per minute the impulse to such breathing having been given during consciousness.

The tendency is naturally toward slow breathing and much more time is required if the breathing be slow. The sponge should be held a short distance from the face and should not cause coughing.

Everything should be in readiness for the operation. After a dozen or more rapid breaths I ask the patient if he is ready. The reply is usually "No." This question is constantly repeated until the patient says "Yes," or until there is no response. If the operation is merely a single incision or one with little exploration, the ether is at once removed. If more time is required the ether should be kept applied. The duration of insensibility to pain is from twenty seconds upward.

Vomiting rarely occurs. It never occurs unless profound anesthesia is approached. I have had two patients who said that they vomited after reaching their homes. The pupils are not affected. The pulse is slightly accelerated.

Patients are, almost without exception, pleased with the action of the ether. An intelligent patient with good control of himself makes the best subject for rapid anesthesia.

It is an undoubted fact that more ether is used by surgeons than is necessary. The dread which many patients have a second time is often only fear of the distressing "coming out." It is, of course, very convenient for the surgeon to have his patient profoundly etherized, but the loss to the patient may be great, both in comfort and in strength. Often profound anesthesia cannot be avoided; sometimes it may.

¹ Read before the Boston Society for Medical Improvement, October 13, 1890.

² In the table, under the head of "Inhalations" the "number" and "time" refer to the number of inhalations and the time required before insensibility was produced.

No.	Name.	Sex.	Age.	Operation.	Frame of Mind.	Position.	Inhalations.	Period of Insensibility.	Remarks.	Result.
							No.	Time.		
1	N. F.	F	24	Needle in finger.	Willing.	Sitting.	73	2½ m.	1 m.	Needle found. Got up and walked.
2	M. D.	F	31	Needle in finger.	Willing.	Sitting.	26	45 s.	45 s.	Got up and walked immediately.
3	A. L.	F	23	Felon.	Unwilling.	Sitting.	61	4½ m.	..	Cried and struggled.
4	M. S.	F	7	Fracture of external condyle into joint. Examination.	Willing.	Sitting.	..	7 m.	2 m.	Arm examined and put into splints.
5	T. H.	F	53	Adhesion of knee ankylosis.	Willing.	Sitting.	33	110 s.	70 s.	Patient had before taken ether very frequently. No bad effect. Went out immediately.
6	M. H.	F	21	Felon.	Timid.	Sitting.	27	160 s.	30 s.	On coming to consciousness cried, but not from pain.
7	A. D. See No. 9	F	21	Felon.	Reluctant.	Sitting.	..	4 m.	..	Made an outcry when cut. On the following day said the ether helped her.
8	E. H.	F	30	Curetting tuberculous sinus.	Reluctant.	Sitting.	30	2 m.	5 m.	A thorough curetting.
9	A. D. See No. 7	F	21	Removal of necrosed phalanx.	Willing.	Sitting.	50	3 m.	6 m.	Second etherization. Went home ten minutes later.
10	R. R.	F	35	Abscess of breast.	Unwilling.	Sitting.	..	70 s.	..	Ab'e to walk in three minutes.
11	L. A.	F	35	Perineal abscess.	Timid.	Reclining.	20	65 s.	3 m.	Drew away a little when the cut was made, but had no recollection of pain. Came out at once.
12	N. J.	F	18	Alveolar abscess.	Fearful.	Sitting.	..	..	..	Began at once to cry and push away sponge. An incision was made which gave pain.
13	A. M.	F	24	Deep abscess of breast.	Timid.	Sitting.	28	90 s.	2 m.	On returning to consciousness complained of feeling weak. This passed off quickly.
14	N. C.	F	20	Cheesy gland of neck.	Willing.	Sitting.	29	85 s.	3 m.	Gland thoroughly curedtted.
15	A. P.	F	17	Abscess of neck.	Willing.	Sitting.	20	35 s.	1 m.	Went away immediately.
16	M. T.	F	15	Felon.	Willing.	Sitting.	25	45 s.	1½ m.	Nail removed, and deep incision.
17	J. S.	F	66	Impacted Colles' fracture.	Willing.	Sitting.	58	110 s.	..	The patient was perfectly relaxed.
18	E. F.	F	60	Colles' fracture.	Willing.	Sitting.	6	20 s.	35 s.	Conscious, but felt no pain.
19	D. W.	F	39	Tubercular glands.	Timid.	Sitting.	29	67 s.	105 s.	Thoroughly curedtted and packed.
20	M. S.	F	28	Axillary abscess.	Willing.	Sitting.	37	70 s.	2½ m.	..
21	J. P.	F	31	Felon.	Fearful.	Sitting.	47	150 s.	80 s.	There was a stage of excitement after a few breaths. No pain.
22	A. S.	F	17	Axillary abscess.	Willing.	Sitting.	35	90 s.	..	..
23	M. H.	F	23	Felon.	Willing.	Sitting.	34	45 s.	..	..
24	S. E. S.	M	25	Removal of necrosed phalanx.	Willing.	Reclining.	80	..	2½ m.	..
25	W. A.	M	20	Abscess of ankle.	Willing.	Reclining.	30	..	1½ m.	..
26	J. G.	M	23	Felon.	Willing.	Reclining.	37	..	3½ m.	The felon was incised and curedtted.
27	J. Q.	M	Adult	Inflamed bursa.	Willing.	Reclining.	..	2 m.	2 m.	Incised and curedtted.
28	S. S.	M	Adult	Felon.	Willing.	Reclining.	..	1½ m.	3 m.	Noisy on coming out. Quickly quieted.
29	W. L. S.	M	Adult	Foreign body in palm.	Willing.	Reclining.	12	60 s.	1 m.	If the search had not been quickly discontinued, the period of anesthesia might have been easily prolonged.
30	M. P.	M	Adult	Felon.	Willing.	Reclining.	18	15 s.	50 s.	The patient breathed rapidly and became unconscious very rapidly. No pain. Recovery in fifteen seconds after the removal of the ether.
31	J. M.	M	16	Felon.	Fearful.	Reclining.	32	2 m.	3 m.	The patient was deaf and dumb.
32	J. H.	M	15	Amputation of finger.	Willing.	Reclining.	48	1½ m.	2½ m.	The amputation required one minute. There was no pain, and the boy walked out as soon as the dressing could be finished.
33	M. J.	M	7	Felon.	Willing.	Sitting.	12	45 s.	2½ m.	Perfectly quiet. Recovered at once.
34	W. M.	M	27	Obscure injury to wrist.	Reluctant.	Reclining.	26	1½ m.	2½ m.	Felt sleepy, and was nauseated for half an hour. Struggled a good deal, and into pain.
35	J. M.	M	..	Abscess of hand.	Willing.	Reclining.	12	30 s.	..	A quick incision was made, and the operation was over in thirty-five seconds from the beginning of the etherization.
36	B. F. B.	M	19	Felon.	Willing.	Reclining.	17	30 s.	..	The operation was over in forty seconds, after twenty inspirations had been taken.
37	F. N.	M	33	Colles' fracture.	Willing.	Reclining.	..	..	..	The fracture was reduced in forty-five seconds from the beginning of the etherization. The patient struggled, but was conscious of no pain afterward.
38	S. B. J.	M	24	Alveolar abscess.	Willing.	Sitting.	16	30 s.	..	The patient was conscious of the cut, and struggled a little. No real pain.
39	P.	F	50	Colles' fracture.	Willing.	Reclining.	25	1½ m.	2 m.	Immediate recovery.
40	S.	M	35	Felon.	Reluctant.	Reclining.	44	2½ m.	1 m.	The patient began to move the legs regularly and to feel pain. Remembered the cut, but did not feel pain.

A DETERMINATION OF THE MUSCULAR STRENGTH OF GROWING GIRLS AND ITS RELATION TO THE ETIOLOGY, TREATMENT AND PROGNOSIS OF CASES OF LATERAL CURVATURE OF THE SPINE.¹

BY CHARLES L. SCUDER, M.D., BOSTON.

In order that the surgeon may treat each case of lateral spinal curvature intelligently, and that scientific data may be accumulated by which a study of the etiology of this disease may be furthered, greater precision and a more extended observation is demanded in the recording of such cases. Hitherto careless methods or no method at all have been used. A rough sketch, a photograph, a general impression have served as records; or after Mr. Roth of London, a tracing has been made of the rotation present. In all the past the object has been, in making these records, simply to have a rough guide as to the progress of the disease. Instruments of more or less precision are now being used by a few in the study of these cases. It is in this direction, rather than in any other, that we must look for progress, in our knowledge of lateral curvature.

The value of most statements, hitherto, upon the muscular element in the etiology has been greatly lessened by an entire absence of carefully recorded facts. The muscular theories have been numerous. The following are the views held by a few:

Guerin attributed lateral curvature to active muscular contraction. The muscles on the concave side of a curvature are actively contracted, and become permanently fixed in this position.

Malgaigne taught that lax ligaments and weakened muscles form the predisposing causes to spinal curvature.

Bernard Roth² thinks that lateral curvature is predisposed to by weakness of the spinal muscles, combined with long-continued sitting or standing in stooping or relaxed positions. He has observed an inherited weakness of muscles and ligaments, associated probably with excessive softness of bones. He writes, "anything which weakens the muscular system tends to produce lateral curvature."

Adams³ believes that in the early stage of lateral curvature the spinal muscles on both sides are, as a general rule, decidedly passive; but that as the curvature advances, the muscles on the convexity are called into increased action and serve the purpose of limiting the extent and preventing the increase of the spinal curvature.

Dr. L. A. Sayre⁴ believes that rotary lateral curvature depends entirely upon abnormal muscular contraction. The spinal column is held in its normal position by the contractions of muscles situated upon either side of it, which should exactly balance each other. If, for any reason, one set of muscles overcomes the set upon the opposite side, the spine yields and a curve is produced with its concavity toward the side upon which the stronger set of muscles is situated. Dr. Sayre differs from Adams in placing the strong muscles upon the opposite side of the body.

Schreiber⁵ believes that in the early stages of the scoliosis there are no changes in the muscles. The muscular changes, he thinks, are due to long-continued stretching and disuse.

¹ Read at the Fourth Annual Meeting of the American Orthopedic Association, Philadelphia, Pa., September 17, 1890.

² The Treatment of Lateral Curvature of the Spine with Appendix.

Bernard Roth, F.R.C.S., London: H. K. Lewis, 1889.

³ Curvature of the Spine. ⁴ Orthopedic Surgery.

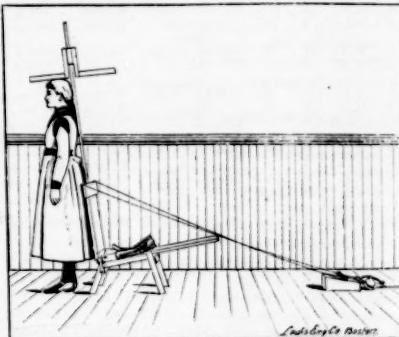
Eulenburg⁶ holds that slight continuous muscular action is necessary for the maintenance of the upright position of the body. This action must be equal on either side of the spine. The most frequent cause of deviations of the spine is a disturbance of the power of the spinal muscles. By the frequently repeated passive torsion, necessary in assuming faulty positions, gradually the trunk muscles are weakened.

Lorenz⁷ is correct in his criticism of the Eulenburg theory, when he says that muscular insufficiency is quite a voluntary and unproven assumption.

Lorenz sums up his criticism by the statement that anatomically, pathologically and clinically there is no foundation for the theory of a disturbed muscular antagonism.

That there is an element of muscular weakness present in cases of lateral curvature, pure and simple, has hitherto been assumed.

Believing, as I do, that it has been pretty satisfactorily demonstrated that two important factors in the production of the deformity are (*first*) the superincumbent weight of the head, neck, upper extremities and trunk falling upon (*second*) a spinal column which is out of plumb, the question arises, What position should the muscular factor occupy in the etiology? Is the assumption of muscular weakness in cases of lateral spinal curvature justifiable?



Chair for measuring the strength of the spinal muscles.

Before being able to determine the presence or absence of muscular weakness, it is necessary to establish a standard of strength for the back muscles for each age of the growing child. In order to establish this standard I have made an examination of the backs of one thousand one hundred and forty-one of the school girls of Boston. There was constructed for these examinations a chair with hinged and movable back, at right angles to a seat slightly inclined from the floor and long enough for the child to comfortably rest the legs upon. The back, at the level of the shoulders, is connected by stiff iron rods to the handle of a dynamometer, graduated in kilogrammes and fractions. Attached to the back of the chair is an upright with a cross-piece, movable up and down, by means of which the height both standing and sitting was taken. (See photograph.)

⁵ Real-Encyclopädie : Bd. II, p. 360, under Rückgratsverkrümmungen.

⁶ Pathologie und Therapie der Seitlichen Rückgratsverkrümmungen, Wien, 1886.

Each child was in turn weighed, and her height taken both standing and sitting. Then, upon sitting in the chair, a strap was passed over the hips (to prevent slipping forward), the arms were folded, and the child forcibly extended her back upon the thighs. The back of the chair was then raised to above the level of the occiput, and again the muscular strength was taken — this time testing principally the trapezius and deep muscles of the neck and upper back. The muscles used in the first test are chiefly those of the lower back. The action of the thigh and leg muscles is as nearly as possible eliminated by raising the legs on the inclined seat. The amount of the pull or the strength of the back muscles is recorded upon the self-registering dynamometer.

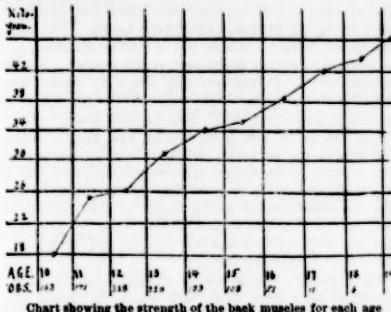


Chart showing the strength of the back muscles for each age of healthy girls.

The results of these observations are seen, in part, upon the chart. There is found to be a gradual increase in the strength of the back muscles of growing girls with each year's increase in age from ten to nineteen. There were no marked cases of deformity amongst these children; and the results are taken to represent the average strength of the backs of growing girls, irrespective of nationality.

We possess then an index of muscular strength for each age in healthy girls from ten to nineteen.

It is now necessary to measure the strength of the backs of lateral-curvature patients during all stages of the disease from its inception — when it has been assumed by some that there is and by others that there is not muscular weakness present — to the period of osseous change, when it has been proven by autopsy that the spinal muscles are so altered or replaced as to have no contractile power.

These two groups of observations — *first*, of normal backs; *second*, of backs with lateral curves — when completed and compared, will demonstrate the presence or absence of muscular weakness in the different stages of lateral spinal curvature. It will thus be possible to determine the history of the muscular strength through the various stages of the disease. And the muscular element in its etiological importance may then be discussed intelligently in one of its aspects.

Muscular exercise indiscriminately prescribed in cases of lateral curvature is irrational. The presence of habitual faulty attitudes does not necessitate the assumption of muscular weakness. The importance of determining the presence of muscular weakness and of measuring it, is greatest when the deformity is slight and the child is apparently strong. Treatment by

posture and exercise is successful in the great majority of cases in the non-osseous stage. But I am convinced that the application of this treatment will be more rational if each case shall be compared with, what may be designated, the physical index of development. This physical index, for any child, is the height and weight and strength which that child ought to have at its age as determined by the tables of Bowditch and the table given above.

From the researches of Dr. H. P. Bowditch, of Boston, it is known what the height and weight of growing girls should be at each age. It is known approximately, from the results of the investigation presented to you to-day, how strong the back muscles should be for each age. With these data at hand it is possible to determine whether a given patient is up to the standard of development or not. Special muscular exercise can then be prescribed when it has been demonstrated that it is needed. Mr. B. Roth's method of determining the need for muscular exercise is an excellent one, but with this additional test treatment is placed upon a firmer and more accurate basis.

The ordinary method of marking improvement or not is by comparing the rotation tracing taken at intervals. In some cases, however, the rotation may remain constant, and yet the attitude of the child improve with the increase of muscular strength. The tracing, in such cases, will not be of great value. But a measure of the muscular strength at intervals will serve a valuable index of progress. Then, again, in those cases in which there is no rotation present, by making measurements of the muscular strength at intervals the value of the muscular treatment will be demonstrated. And, again, in those cases in which the rotation diminishes by treatment, the tracing may be supplemented by a test of muscular strength.

A committee on lateral curvatures of the spine appointed by the Clinical Society of London, reported that "the amount of improvement which may be hoped for in any given case may not unsafely be gauged by the improvement which the patient can voluntary effect (directed or helped by the surgeon) in her position when first seen." In addition to this, the relation existing between the age, the height, the weight and the muscular strength of any given individual will assist in forming a prognosis.

There is, of course, a normal relationship between the several factors of the physical index. If, upon examining any given child, she is found to vary in any one or more points from the standard, it may then be considered whether this variation is to be taken as one of the etiological factors or not.

In conclusion:

(1) To-day has been established a scientific basis for the study of the muscular element in the etiology of lateral spinal curvature.

(2) Suggestions have been offered as to the bearing of these observations upon (a) the treatment, (b) the records, (c) and the prognosis, in cases of this disease.

— According to an official return of deaths due to wild beasts and snakes in India during the last year, it appears that 1,972 persons were killed in the Madras Presidency, of which number 1,587 were due to snake bites. The number of cattle destroyed in this way was 12,555.

¹ See Clin. Soc. Trans., vol. xxi, 1888, p. 301.

APPENDICITIS: OPERATION.

BY EDGAR GARCIAU, M.D., LEOMINSTER, MASS.

THE patient, L. B., is a man, thirty-five years old. By occupation a loom repairer. He has always been healthy. His family history is good, and his habits also good.

In the evening of August 2d, about four and a half hours after supper, he was seized with a sudden violent pain in the bowels, almost wholly confined to the right side. There was vomiting also. His supper had consisted of a hearty meal of baked beans, which he said were "hard and not well cooked." During the night he took an injection, which moved the bowels freely, but the pain persisted, so, early in the morning a physician was called, who gave him a subcutaneous injection of morphia, after which he felt much better, and the pain subsided.

Thinking himself well, he got up, but he found that this brought on the pain again, which ceased as soon as he lay down. The pain had now localized itself in the right iliac region. He persisted, however, in getting up until an increase in the pain, and a moderate fever, which had now declared itself, forced him to take to his bed. Then he came home. He was working at some distance from home when he was taken sick.

The physician who treated him now, applied the usual remedies, and in the course of three weeks, or so, he was so much better that he got up and began to take gentle exercise. He had been up a week when he again began to feel worse. The pains recurred, and he was miserable.

Then the writer was called. When I learned the circumstances of the case I advised the patient to summon the previous physician. But as he persisted in changing, I undertook the case. This was on September 8th, about five weeks after the onset of the sickness.

In the right iliac region was a tumor about the size of two oranges. It followed Poupart's ligament, and extended from it about two and a half to three inches towards the linea alba. The inner edge was sharply defined. There was considerable tenderness on palpation, especially in the centre. Fluctuation was absent, both externally and by rectum. Indeed, by rectum the tumor could be but indistinctly felt. There was no tympanites, nor was there tenderness anywhere except in the place mentioned.

The bowels were free, and had been since the beginning of his sickness, and there had been at no time obstruction to the passage of flatus. In general appearance the patient seemed weak and sick, and his face was sallow. The tongue was coated moderately, and the fever ranged between 100° and 99°.

Poultices were applied, which gave relief. Morphia was given in sufficient doses to control pain. He took three-fourths of a grain in the twenty-four hours. Castor oil was also given in the dose of one teaspoonful every eight hours. The next day he seemed better. The tumor remained the same. On the day following a softening was felt in the centre of the indurated area, which increased on the next day. Fluctuation was absent. This was the spot of greatest tenderness.

After holding consultation, operation was decided on. Ether was given. An incision was made over the soft spot, two inches long, parallel with Poupart's

ligament, and half-way between the anterior superior spine and the pubes. Dissection was carried down with director and scalpel until a cavity was opened. About a teaspoonful of pus appeared. The finger was introduced and discovered a space surrounded with walls, which seemed to shut it off completely from the general peritoneal cavity. A quantity of grumous semi-solid material, mixed with blood, was discharged from the cavity. The appendix was not discovered nor any foreign body. Then the cavity was washed out with corrosive sublimate solution (1-5,000) and two tubes, perforated at the ends, were introduced and a dressing applied.

The patient recovered well from the ether. That evening his temperature was 102°. There was a good deal of pain, and he required one and a half grains of morphia during the first twenty-four hours. The next day he was better. There was slight tympanites, but no tenderness except at the seat of the wound. Flatus passed freely. In the evening the temperature was 104.5° and the pulse high. The following morning the temperature was 100°, and he felt much better. There was much less pain, and he had slept a little. The wound was irrigated twice daily with corrosive. The amount of discharge was very small, and had a faint fecal odor. The next day the suspicion of fistula was confirmed by seeing feces in the discharge. This showed that the appendix had suffered perforation, but no great fear was felt as to its not closing up, and it did so after five days.

For dressings, simple cotton cloths soaked in corrosive (1-5,000) were used, and when the fistula appeared, a small amount of thymol added to the corrosive solution effectually counteracted the odor.

The subsequent history is uneventful. The cavity is rapidly closing up, pushing out the tubes as it closes. The patient has much improved in general appearance. His appetite is excellent. There is no fever. The bowels respond promptly to a teaspoonful of castor oil. A speedy and complete recovery is looked for.

This case may be classed with those which run a slow course, appear to get well, and suddenly light up again. While in the present case the appearance of softening, so opportunely, at once decided the question of operative interference; yet in a great number, no such aid is given, and it is in these that delay is often so fatal.

But little dependence is to be placed on the height of the temperature and pulse as indicative of the presence of pus. More reliance is to be placed on the general appearance of the patient, combined with the behavior of the tumor. If the tumor remains stationary even if softening does not occur, and if the patient does not look well, does not improve in general appearance, it is pretty positive evidence that an operation is advisable.

If operation is not done, the fire frequently smoulders insidiously, until sudden collapse from a general peritonitis calls for a hasty operation, only to terminate in death in the vast majority of cases.

It is the early operative interference which has been so often emphasized that will save the greatest number of lives. It is much better surgery to find only a teaspoonful of pus than to find half a pint. Fatal shock may be best avoided when the patient is not exhausted by a protracted course of waiting.

The operation, by antiseptic precautions, has been

rendered comparatively safe, and even if the peritoneal cavity is opened, adhesions form so quickly that the inflammation is generally prevented from spreading. Fecal fistula, when it occurs after operation, is not much to be dreaded. It generally closes.

REPORT ON THE RECENT PROGRESS OF ORTHOPEDIC SURGERY.

BY EDWARD H. BRADFORD, M.D., AND ROBERT W. LOVETT, M.D.

LATERAL CURVATURE.

Of late, renewed attention has been devoted to the subject of scoliosis, stimulated by the writings of Sayre, Roth and more recently of Lorenz. Not only has the pathology been more thoroughly investigated than ever before, but new methods of treatment have been suggested as well as a more careful classification of cases.

Golding Bird¹ in a well-written article advocates the Sayre method in the treatment of lateral curvature defining this method, as the support of the enfeebled spinal column by means of a corset and the prevention of the atrophy of the muscles by means of calisthenic exercises including self-suspension.

Cases which are particularly suited to this method of treatment are those of comparatively "feeble persons, especially girls of deficient muscular development in whom physical exercise has been neglected by their parents, while their intelligence, often precocious, has been unduly developed." They are unable to withstand the daily fatigue of life, assuming an attitude "hanchée" (that is, by standing on one leg) like a soldier at rest — an attitude calculated, if too long continued, to develop a permanent deformity." Sayre's method will not correct the evil unless aided by the good will of the patient and the constant attention of the parents.

The writer classifies patients in three groups, according to the resistance of the curves. In cases of the second class he uses plaster corsets less than formerly, for the reason that, although he considers them the best support, less rigid appliances are in many instances better borne by patients. This is true also and to a greater degree in cases of the third class.

As to results: In thirty-three cases of the first class, Golding Bird reports 26 cures. One neglected treatment, and suffered a severe relapse; six began to improve, but were lost sight of; 19 of the 26 were treated for twelve months, four for one or two years, and three for more than two years.

As a rule, active treatment for a year is sufficient. Consecutive treatment carried out by the family will be needed to prevent a relapse for a longer or shorter time according to the patient's condition.

In patients of the second class it is difficult to specify in statistics the results of treatment, as the opinion of the surgeon as to improvement is not readily defined. Out of a dozen cases of this class two were followed for five months only, and though improved during this time, they should be disregarded in the list. Of the other ten, six were benefited to a permanent extent after an active treatment of from nineteen to twenty-four months; four relapsed (after three months improvement during active treatment) from neglect of consecutive treatment, improvement lasting three months in two, eighteen months in one, twenty months in the last.

¹ Revue d'Orthopédie, 1890, No. 1, p. 35.

In three cases of the third class a general improvement in condition was noticed after continued treatment by daily suspension, and plaster or felt corsets.

RACHILYSIS.

Barwell² also divides the cases of scoliosis into three classes: first, those in which the patient can rectify the curve by voluntary effort; second, those where the curve can be modified but not entirely changed by such effort; and third, those in which voluntary effort will produce little or no change. In cases of the second class, Barwell recommends as of assistance what he terms "rachilysis." The trunk is pulled into a corrected or over-corrected position by means of straps and pulleys, and this exercise is repeated daily.

Rédard,³ in describing the technique of orthopedic corsets, gives a hearty support to the use of plaster-of-Paris in preference to all mechanical corsets in the treatment of scoliosis.

Beeley⁴ recommends the employment of Fischer's method of hanging weights upon the curves of kneeling patients with scoliotic curves. By an arrangement of straps and suspended weights, pressure of from sixty to one hundred kilogrammes can be brought to bear upon the projected ribs for an hour or so with ten minutes rest.

LATERAL SUSPENSION IN SCOLIOSIS.

Rédard⁵ modified Lorenz's apparatus (adopted from Wolm's appliance) for lateral suspension of patients over a padded bar, and recommends the method as being the best means of correcting the rotation. Rédard's modification consists of a board supporting the limbs. This board can be lowered at will; and in this way the amount of strain and pressure can be graduated and made less trying for the patient.

APPLIANCE FOR MEASURING LATERAL CURVATURE.

Barwell⁶ described a simple means of recording the amount of rotation in lateral curvature, as well as the lateral deviation. It consists of a stand with a rule to mark the obliquity of the pelvis, and with arms to steady the pelvis; from this rises a rod carrying at its top a short bar which rotates horizontally round a screw clamp, and is armed with a needle playing over a sextant. The patient's back is placed against the bar, the pelvis being held in line by the aid of the pelvic indicator. The projection of the ribs (that is, the rotation), if present, presses the top bar back on one side, the amount being recorded on the sextant; this can be noted and used for comparison. An arrangement is added for the purposes of marking the centre line of the pelvis and thorax and the distance of the latter from the spinous process.

Mr. Barwell has observed in a certain number of cases how many as yet, he does not know — that in lateral curvature the limbs do not stand perpendicularly to the floor. The cause of this is not understood; and cases of what he terms "amesial" pelvis of this sort are difficult to treat.

Hoffa⁷, of Würzburg, reports a good deal of success in the treatment of lateral curvature in cases of the first and second class. He uses an arrangement by

² Barwell: Lancet, April 27, 1889, p. 631.

³ Gazette Médicale de Paris, April 27, 1889.

⁴ Centralblatt f. Chirurgie, 1889, No. 45, p. 860.

⁵ Gazette Med. de Paris, 1890, p. 100.

⁶ Clinical Society Transactions, vol. xxii, p. 314.

Münchener Medicinische Wochenschrift, 1889, p. 463.

which the patients during suspension are held in a corrected position. A light removable plaster jacket is applied, which he terms a torsion corset. Such a corset cannot, however, be applied until after a preparatory treatment of a few weeks, for the purpose of making the spinal column as flexible as possible. Lorenz and Beely's method is employed — self-correction and gymnastic exercises and faradization. A torsion corset is then applied and worn chiefly in the morning. A lighter steel appliance is worn later.

He reports number of cases benefited by this method of treatment.

HIP-JOINT DISEASE.

W. Blanchard⁸ writes of the mechanical treatment of hip disease, advocating fixation, and describing a splint which he has used for many years, which is similar in construction and application to that so well-known in England by Mr. Thomas's name.

J. E. Goldthwaite⁹ has reported a case of acute hip disease where no deformity was present, in which night cries of a severe character were controlled by elevating the leg, which probably served to relax the Y ligament. Every other means had been previously tried to arrest the cries.

The question of the merits of traction *vz.* fixation, is discussed at length by Ridlon¹⁰ with which may be compared an article by Willard,¹¹ dealing with the operative treatment of hip disease.

Mr. Croft,¹² in a lecture before the Royal College of Surgeons, gave a careful consideration to the results of the mechanical and the operative treatment of hip disease and concludes "that there is a great future for the policy which was laid down that tubercular disease in its caseating and liquefying stage shall be completely excised, etc."

As an offset to this, one has a most admirable paper by Shaffer,¹³ dealing with the principles of the mechanical treatment of hip disease from the American standpoint, and a direct reply to Mr. Croft's paper by Howard Marsh¹⁴ as a representative of English conservative methods.

Some very valuable evidence of the value of traction in hip disease was given in Dr. Brackett's paper¹⁵ relating some experimental work in that direction, made both on the living subject and on the cadaver. In six experiments on the cadaver, traction of twenty-five pounds caused a distinct lengthening of the leg and an increase of the distance between the two great trochanters, showing that the relations of the joint had changed. That is, it showed that in separation of the joint surfaces, the first step is the outward displacement of the head of the femur, sliding on the oblique acetabulum. In the living subjects the distance between the trochanters was increased by moderate traction, showing also a change in the joint relation. The outcome of the research is the conclusion that distraction of the joint surfaces is possible under ordinary conditions.

Phelps,¹⁶ in writing on the treatment of hip disease from an anatomico-pathological basis, advocates both fixation and traction in the treatment, but he believes

for anatomical reasons that traction should be made neither in the line of the neck nor of the shaft, but in a direction between the two. This he would accomplish by making outward as well as downward traction. He has devised a portable bed which is much the same as the wire cuirass but is less cumbersome and expensive.

The mechanical treatment of senile coxitis is advocated by H. L. Taylor,¹⁷ who describes the apparatus to be used and gives illustrative cases.

An interesting hip-joint was shown by Dr. Myers¹⁸ at the New York Pathological Society. Excision of the hip-joint had been done nine months previously, and the result of the case had been so favorable that the child (four years old) was able to bear weight on the limb, and motion at the hip was very good. Dissection of the joint after death showed that the posterior and upper rim of the acetabulum was well defined and had not suffered from the disease, to which fact the stability of the joint was probably due. The muscles and ligaments had adapted themselves to the new conditions, and the joint surfaces were covered with a strong, smooth, fibrous membrane.

The value of femoral osteotomy for flexion of the leg after hip disease, is brought out in the paper of Vance,¹⁹ who does the Gant operation with very satisfactory results. He makes no incision, but drives the chisel straight to the bone through the sound skin. The same method is especially applicable in MacEwen's osteotomy.

CONGENITAL DISLOCATION OF THE HIP.

Mr. William Adams²⁰ reports satisfactory results from the treatment of congenital hip dislocation by extension, following the lead of Dr. Buckminster Brown. The method of treatment is similar to Dr. Brown's. Mr. Adams' cases are four in number, two unilateral, and two bilateral dislocations, and the head of the femur seems to be retained in its proper place in each of them. As yet it is too early to judge of the real success of the treatment, as in the longest case only two years and seven months have elapsed since the beginning of treatment. In view of this Mr. Adams promises a later report.

Krause²¹ records two cases of acute purulent arthritis of the hip, occurring in the subjects of congenital dislocation.

A very careful and systematic consideration of congenital dislocation of the hip is contributed by Dr. Evans²² which brings forward nothing new but which deals at length with the pathology and etiology and describes the recorded dissections. In the matter of etiology, he inclines to the view of Grawitz (which may, in fact, be spoken of as the modern view), that mal-development of the acetabulum lies at the root of the deformity. The question of treatment is dispatched with very scant consideration.

Teufel²³ reports an excision of the hip which proved of much benefit to an adolescent patient with congenital dislocation of the right hip, but knock-knee and club-foot were present on the same side, so that he was not able to walk without Taylor splint, but even this was a decided improvement over his original

⁸ Chicago Medical Journal and Examiner, 1889, Ivi, 321.

⁹ Boston Medical and Surgical Journal, 1889, exxi, 286.

¹⁰ New York Medical Journal, 1890, II, 169.

¹¹ Philadelphia Medical News, Ivi, 361.

¹² Lancet, February 8, 1890.

¹³ New York Medical Journal, November 23, 1889.

¹⁴ Lancet, August, 1890.

¹⁵ Boston Medical and Surgical Journal, exxii, 241.

¹⁶ New York Medical Record, May 4, 1889.

¹⁷ Transactions American Orthopaedic Association, vol. I.

¹⁸ Medical Record, March 14, 1890, p. 307.

¹⁹ Transactions American Orthopaedic Association, 1890, I, 149.

²⁰ British Medical Journal, February 22, 1890.

²¹ Arch. f. Klin. Chir., 1889, 89, 477.

²² Philadelphia Medical News, November 16, 1889, p. 534.

²³ Deutsch. Zeitsch. für Chir., xxix, 346.

condition. He follows the account of the case with a consideration of the etiological theories. Under the head of treatment all operations (by German surgeons at least) are considered and tabulated.

KNEE-JOINT DISEASE.

Gibney²⁴ writes of the treatment of knee-joint disease in children, and advocates conservative treatment which he finds easily applicable by means of carefully applied plaster bandages. But in addition to mere fixation he would afford protection to the diseased joint by taking off the body weight by means of a Thomas splint or a perineal crutch. Flexion deformity is treated by means of the "Billroth splint" which is a plaster bandage hinged laterally at the knee which can be extended at will. Abscesses he would let alone until they became troublesome.

ANKLE-JOINT DISEASE.

The question of excision of the ankle-joint has occupied a more prominent place than usual in the medical literature of the last year. Articles have been numerous which dealt with the indications and especially the technique of the operation. The more important of these are by Kirmison,²⁵ Ollier,²⁶ Poulsen,²⁷ Rédard,²⁸ Serr,²⁹ and Trouillet.³⁰

C. L. Scudder³¹ reported eighteen cases of excision of the ankle-joint operated on at the Boston Children's Hospital and gave a general consideration of the question of excision. Of fifty-four excisions these were the only cases where the end results could be reported. The cases found had for the most part useful feet and the results of the operation were eminently satisfactory. After a careful review of the whole subject he makes a plea for complete excision instead of the partial operations so much in vogue, and calls attention to the good results after early excision. Operative treatment is not, however, to be recommended until expectant treatment has definitely failed.

Arthur Neve³² in a consideration of the same question advocates extensive removal of the soft parts as well as of the bones, and is also a believer in extensive and thorough operations. He uses a posterior incision which seems to him much better than the common ones. It begins well up the leg on the posterior surface of the tibia and sweeps down to the insertion of the tendo Achillis and up the back of the fibula. The deeper structures at the inner aspect of the leg are dissected off the bone and turned forward. The foot is strongly flexed, the lateral ligaments cut and the joint exposed.

It does not seem possible that this method can give so good a view of the joint as the external semi-lunar incision of Kocher, of which Mr. Neve makes no mention. Nevertheless, he claims that it is very satisfactory, and easy of performance.

(To be continued.)

— A Chicago paper tells of a Missourian who died from having gorged himself with veal and hard cider. He was a member of several societies, all of which passed resolutions imputing his removal to Divine Providence.

²⁴ Archives of Pediatrics, 1889, 6, 384.

²⁵ Gaz. des Hôp., 1888, xi, 1126.

²⁶ Gaz. Med. de Paris, 1888, vi, 241.

²⁷ Poulsen: Can. J. of Surg., 1888, xvi, 537.

²⁸ Rédard: Rev. Gén. de Clin. st de Thér., Paris, 1889, iii, 335.

²⁹ Serr: Deutsch. Zeitsch. f. Chir., 1889-90, xxx, 165.

³⁰ Trouillet: Thèse de Lyon, 1888, No. 452.

³¹ Boston Medical and Surgical Journal, January 30, 1889.

³² Edinboro' Medical Journal, October, 1889.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

G. G. SEARS, M.D., SECRETARY.

REGULAR Meeting, Monday, October 13, 1890.
DR. W. L. RICHARDSON in the chair.

DR. F. B. HARRINGTON read a paper on
THE VALUE OF PRIMARY ANESTHESIA IN MINOR
OPERATIONS.¹

DR. F. H. WILLIAMS: It is very desirable that this form of anaesthesia should be more used than it has been. I should like to ask what amount of ether was necessary.

DR. HARRINGTON: I have always used a sponge which was saturated. I suppose about an ounce of ether is poured upon it. I think a much smaller quantity could be used. The patients remain very quiet, and if you ask them if they are ready, they will sometimes say yes when they are not quite ready. I have had them talk through the cutting, evidently not suffering pain, and it is a very unusual thing for them to draw away the hand, for instance, that is being operated on.

DR. WILLIAMS: Do you hold the arm up in order to test whether the patient is etherized? We know that sensation is lost sooner than motion, so that one of the tests, of course, is to have the patient hold the hand up, and as soon as it falls you are sure that he cannot feel pain.

DR. OTIS: Dr. Harrington has referred to the use of nitrous oxide. In one of my terms of service at the Dispensary we had an apparatus, and I used it off and on for three months. One of my assistants was the son of a dentist and he took charge of it. I found it unsatisfactory because the time of anesthesia was exceedingly transitory, and gave hardly time to get the knife in the hand before the return of consciousness; and besides this they became so stiff and the whole appearance was so ghastly, that it was uncomfortable and unsatisfactory.

DR. S. J. MIXTER: I quite agree with what Dr. Harrington has said about etherization for minor operations. There is no reason why a patient should be profoundly etherized for such operations as opening felonies and palmar abscesses, excision of the lip for cancer, or any others requiring a short time for their performance. The dread of nausea, vomiting and a long period of discomfort following ether makes both patient and surgeon avoid its use in many cases where it could be given to the greatest advantage to both. Primary ether-anesthesia and the use of cocaine has done great service in surgical out-patient clinics, and the choice of one of these methods depends largely on the personal experience of the operator. I have used cocaine in many hundreds of cases, on one day doing twelve minor operations with it, and have never had any unpleasant results from it. I, therefore, use it when the field of operation can be anesthetized by a small amount of cocaine, especially if fine dissecting or much time is required, while for more severe operations such as extensive palmar abscesses, etc., I use primary anesthesia. Operation for removal of cancer of the lip, even where the whole lower lip is to be removed, can be done without pain after the proper use of

¹ See page 434 of the Journal.

cocaine. Internal urethrotomy and divulsion of stricture I almost always do under cocaine.

DR. MORTON PRINCE: I should like to call attention to the use of cocaine in connection with the electrical current for producing anesthesia. It is a method I have used myself a good deal in my office the past year, and have found it very successful. I have not had occasion to use it in connection with cutting operations, but for purposes of electrolysis I have found it of great value. It is a well-known fact that if solids in solution are connected with the positive pole of a constant battery, they are carried through the skin, and by this means cocaine can be made to penetrate the epidermis, and local anesthesia be produced. The method was first suggested a good many years ago, I think about 1865, by Richardson of England, who claimed that local anesthesia could be produced in this way by chloroform. His results, however, were denied, and the practice fell into disuse. Later, Mickelowicz took it up and claimed that local anesthesia could be produced in this way by means of chloroform. His statements also were very strongly denied. A year and a half ago, I think it was, Peterson, of New York, undertook to reinvestigate the whole subject, and he found that it is perfectly true that cocaine or chloroform can be made to penetrate the skin by means of electricity, but that it was impossible by means of the Mickelowicz electrode to obtain anesthesia for the reason that owing to faulty construction, no electricity passed through the liquid. The principle, however, is correct. I have not had occasion to use this method for cutting operations, and therefore, cannot speak positively of its value for such purposes, but I have almost daily used it for electrolytic operations. Now the pain from electrolysis I suppose is as intense, or may be so, as is likely to be produced by almost any minor surgical operation, and I find that cocaine used in this way gives the greatest relief. I do not know from personal experience, whether absolute anesthesia can be produced or not, as I have never found it necessary to carry the effect so far. Peterson, if I remember rightly, obtained it. It certainly decreases pain to a great extent, so that in some cases where I have not been able to operate at all without it, by its use I can do so with the greatest ease. A little girl, for example, who was always thrown into an hysterical condition by the pain of the electrolytic needle before I used cocaine, afterwards bore the operation with the greatest ease. It seems to produce loss of sense of pain without much loss of the tactile sense. I do not believe that the method is applicable in surgical operations where there is much local inflammation, for instance, but I should think there might be a good many cases in which it could be used.

DR. CUTLER: I should like to ask how Dr. Prince applies this, as a solution or solid body?

DR. PRINCE: All that is necessary is a small electrode with a piece of absorbent cotton soaked in a ten or twenty per cent. solution of cocaine. Peterson has constructed a special electrode which he says is very good. Practically I cut a piece of cotton the size of my electrode, and wet it in cocaine. This is then placed on the skin and the electrode on the cotton, and a current from the positive pole allowed to pass, anywhere from two to six minutes, according to the effect desired. The longer the duration of and the stronger the current, the deeper the anesthesia ob-

tained. The negative electrode is wet with water and put on the palm of the hand or anywhere you choose to put it. I use an electrode for my purpose one-half to three-fourths of an inch in diameter. On the upper lip I use an elongated electrode. It works well for my purposes, and I don't see why it shouldn't for other operations.

DR. CABOT: I have used primary anesthesia a good many times, but I confess that Dr. Harrington in his paper this evening has shown me that I have made what I have called primary anesthesia more profound than is always necessary. My test has been the one Dr. Williams spoke of — having the patient hold the hand up and operating the moment it dropped. I have never operated while the patient could still answer questions. In trying this test of holding the hand up, I have been surprised to see the patients, when partly etherized, get into a state very similar to what I have seen here shown by some of the neurological members, in hypnotism, that is, a perfectly cataleptic state. Put the arm in any position, and it will stay where it is put. Another similarity between partial anesthesia and hypnotism is, that an idea impressed upon the patient before anesthesia is acted upon during the early stages of anesthesia before the power of movement is lost. A patient who promises before etherization to lie still usually does so, and it is very seldom necessary even to touch the hand.

DR. WILLIAMS: In the exercises of the medical student in which opportunity is given them to see the various forms of anesthesia and compare them, I have preferred primary anesthesia to the use of nitrous oxide, as being more convenient, as Dr. Harrington and Dr. Otis have suggested.

I should like to ask Dr. Harrington the amounts of cocaine used in those cases in which he got unpleasant results.

DR. HARRINGTON: A case of alarming symptoms following the use of cocaine, occurred during my service in the Out-patient Department of the Massachusetts General Hospital, last year. I have many times injected two drachms of a five per cent. solution of cocaine into the urethra for the purpose of passing sounds. On this occasion that amount was injected. In less than a minute the patient's arms and legs began to twitch and the face became contorted. I suppose that the attack was hysterical. The patient was a young delicate man of about twenty-five years. I endeavored to arrest the attack by shaking the patient and speaking sharply to him. It had no effect. Intense spasms, tonic and clonic by turns, came on. At one time the respiration ceased, and the face became very black. Artificial respiration was produced. The urethra and the bladder were immediately washed out. During this process there was an emission of semen. The pulse became very rapid and feeble. The eye became widely dilated. For five minutes the condition was very alarming. The attack gradually subsided and the patient was able to go home in two or three hours. He stated that he had never suffered from epilepsy. The seizure resembled very closely an epileptic attack. The amount of cocaine which was absorbed must have been extremely small, and the attack may have been mere coincidence.

DR. GREEN: Concerning the test of the required amount of anesthesia for the momentary operation, I have been accustomed for years, in occasionally drawing teeth or opening a felon, to tell the patient that he

or she would be aware of what was going on, but would not suffer pain, and my standard has been the insensibility of the conjunctiva to the touch. My results have almost invariably been successful.

DR. MIXTER: It seems to me that the importance of primary anesthesia in capital as well as minor operations should be more generally recognized. We become so accustomed to operating only when the patient makes no sign when cut, that any outcry or struggle seems to call for more ether, and when there is much shock, the extra amount of ether may be sufficient to turn the scales against the patient. In such cases I have everything ready for the operation, and while the patient is perhaps still talking, the operation is performed as rapidly as possible. In one case I did a herniotomy while the patient was protesting against the suffocating sensation produced by the ether. I have also performed high amputation of the thigh, amputation of both legs, etc., in a similar manner. The patients tell you afterwards that they did not feel the operation.

In regard to the bad effect of using cocaine in the urethra of a patient at the hospital, mentioned by Dr. Harrington, I can say that the service passing to me soon after, I was warned by the assistant in regard to the use of cocaine in this case, so I passed the sound without it. He had a somewhat similar convulsive attack at once, though not so severe as before. Soon after, I had another patient with stricture where there was a most unpleasant convulsive attack following the passage of the sound, either with or without cocaine. Judging from these and similar cases, I think that many (not all) of the accidents ascribed to cocaine are merely coincidences.

Dr. ARTHUR T. CABOT showed a plaster cast of a case of

FORWARD DISLOCATION OF ONE OF THE CARPAL BONES.

He said that this injury was so rare that Hamilton had been unable to find a single instance of it reported.

The cast was taken from the wrist of a patient of Dr. G. W. Mills of Medford. The man, a carpenter, fell from a house, suffering an injury of his wrist. Dr. Mills examined him under ether, and found an impacted fracture of the radius [Colles'] and also the displacement forward of one of the small bones of the wrist, which was well-shown in the cast. During anesthesia this bone could be pushed down somewhat into place in the carpus, but the moment the pressure was taken off it popped out again. Persistent efforts were made to hold it in place, but only resulted in a pressure sore over the projection without reducing the deformity in the least. The man recovered with a useful wrist, though much misshapen. It was not possible to tell which bone of the carpus it was that was displaced, but its size and position suggested the os magnum.

— The Medical Council of St. Petersburg is considering a project for the regulation of doctors' fees, by dividing patients into three classes, according to their pecuniary ability. There will be great scrambling for enrolment in the third or free-patient class by many people who would otherwise scorn to be regarded as poor.

AMERICAN GYNECOLOGICAL SOCIETY.¹

THIRD DAY.—MORNING SESSION.

THE COMPARATIVE VALUE OF BINIODIDE AND BICHLORIDE OF MERCURY AS SURGICAL ANTISEPTICS, by CHARLES JEWETT, M.D., of Brooklyn.

Dr. Jewett asserted that the biniodide of mercury as a germicide is as potent as the bichloride of mercury, if used in proper concentration, and that it possesses important advantages as a practical antiseptic. The bichloride is an unstable chemical compound, decomposing on contact with instruments, soaps or albuminous fluids, and is gradually reduced to calomel in the presence of certain organic bodies. It must frequently happen in practice that the trusted solution has long since become inert, not to speak of the injury done to instruments.

The addition of acids prevents the precipitation of albumen, but it is more unpleasant to the surgeon's hands, and accelerates the decomposition of the solution in the presence of ordinary metals. The biniodide of mercury is comparatively stable. Its solution is not destroyed by soaps or albuminous fluids, and it is more feebly affected by metals. Steel instruments may be left lying for a few minutes in a one two-thousandth solution without material harm, and may be brushed and sterilized with it in preparation for use. The slight blush which appears after a time may be wiped off leaving the polish intact.

The biniodide is less irritating than the bichloride to the surgeon's hands, to wound surfaces and to mucous membranes, and, also, probably is less toxic, both as an irritant and as a systemic poison.

From 226 experiments made at the Hoagland Laboratory the following conclusions were drawn:

- (1) In equal concentration the biniodide is slightly inferior to the bichloride in germicidal power.
- (2) The difference in the efficacy of a one two-thousandth and a one one-thousandth bichloride solution is insignificant.
- (3) The activity of a one one-thousandth solution of the biniodide is materially greater than that of a one four-thousandth solution.
- (4) For equal potency as a sterilizing agent the biniodide should be used in a little greater concentration than the bichloride, presumably one eighteen-hundredth.

A REPORT OF MY RECENT EXPERIENCE IN RESTORING LACERATIONS INVOLVING THE SPHINCTER ANI, BY THE FLAP-SPLITTING METHOD,

by HORACE TRACY HANKS, M.D., New York.

Dr. Hanks stated that the operations of Thomas, Emmet, Brown-Baker and his own would have had good results, as a rule, could the operation have always been performed by a skilled surgeon, and the patient nursed by a reliable nurse. The after-treatment of the writer, namely, keeping the bowels loose for ten days, is a feature quite essential to success. He believes that the Tait operation, when perfected, will prove to be the best yet devised. It is the most simple, the most quickly done and the surest in its results.

Dr. Hanks cited the last five cases in which he had operated. He performed the usual flap-splitting operation, removing the sutures after ten days. Every case

¹ Fifteenth Annual Meeting, Buffalo, N. Y., September 16-18, 1890. Concluded from page 423 of the Journal.

recovered and the results were perfect. The operation, as performed by Dr. Hanks, is as follows:

The patient is to be in the best possible physical condition, the bowels to be thoroughly moved each day for several days, and the rectum to be unloaded with an enema the morning before the operation. The hairs should be removed from the labia and mons, and the parts washed with a one one-thousandth or one two-thousandth bichloride solution. The patient is put in the lithotomy position, and the vagina and rectum douched with a one four-thousandth bichloride solution. The upper rectal pouch is filled with few cotton balls, wrung out of hot antiseptic water. Then with tenacula inserted at the parts which represent the carunculae, the labia must be approximated, and the vagina thus closed for inspection. Begin the operation by making an incision with scissors near to, but below the end of the torn sphincter on the patient's left, and cut or slit the rectum from the vagina, from the torn sphincter up to the angle of the tear in the recto-vaginal septum. Then carefully split it for a full half-inch at the angle. Follow the same procedure on the opposite side of the anus. The points where the incisions begin must be on a level with the lowest part of the anus. An incision one-quarter inch deep is usually required; the object is to reach the end of the sphincter, whether the cut be deep or shallow. After irrigation with hot water, vertical incisions are made, the parts dissected back a little, and then prepared for the sutures. The rectal wall is then sewed to the anus with a No. 1 continuous catgut suture. The small Hanks-Pearse needle is used in placing the most important suture. The first suture enters the undenuded tissue below the level of the anus, the needle being directed downwards at first, that there may be no doubt about catching all the fibres of the sphincter ani. Silver wire sutures are put in proper place, and these should remain for ten or twelve days.

DR. E. C. DUDLEY, of Chicago, had performed Tait's operation formerly, and always succeeded in getting union, but had since discarded it as it did not sufficiently bring together the torn parts — not being a restorative operation. He believed the condition of a lacerated perineum through the sphincter ani indicated simply an operation which would restore the parts to the condition they were in before the tear occurred. The first step is to bring together the lowest carunculae myrtiformes with two tenaculae, when the direction of the original rent and cicatrix can be made out. The perineal body is then restored by the method suggested by Emmet. In thirty-six to forty-eight hours a cathartic is given, and before movement an enema of warm water, and the bowels are kept open until union is complete. He believed no particular operation could be laid down as applicable to all cases, but he had adopted in these cases a plan which was a slight modification of Emmet's. He considered it most important to restore the rectal site of the rent. He does not think that the size of the perineal body has so much to do with its efficacy as its location. If it is small and located well up, hugging the pubes, it is all right, but, if it be ever so large and located down toward the tip of the coccyx, and relaxed, it will not perform its functions, and operation on the vaginal outlet is quite as important as if the perineal body had been torn.

DR. POLK, agreed with Dr. Dudley, and thought the most important factor was the levator ani muscle which passes from the body of the pubic bone and

meets the same of the other side, at the side of the rectum. When this is not relaxed, but is well up near the pubic bone, it pulls the posterior wall of the vagina with it, which, of necessity, catches the pelvic pressure.

DR. DUDLEY, of Chicago: In operating, after the sutures had been tied, he would catch their free ends with a lock forceps, and thus get them out of the way. He found this also to be of an advantage in grasping the freed end of each suture after it was introduced and tied, upward traction could be made by the assistant, who held the forceps which grasped the free ends of the sutures, which would bring the perineum up until it hugged the pubes. When this is done the perineum will almost exert pressure on the anterior wall of the vagina and pubes. Emmet followed the practice of introducing all the sutures at one time, tying them afterward, but the speaker had found it of much greater advantage to insert one suture at a time, tying as he went along, thus bringing the perineum up into the position described. If this plan is followed the operator will rarely fail to get the perineum into the proper position.

MEASUREMENTS OF THE UTERINE CAVITY IN CHILD-BED,

by DRs. W. L. RICHARDSON and A. D. SINCLAIR, Boston, Mass.

This paper was an analysis of 540 observations made at the Boston Lying-in Hospital, and was intended to make a complete record of 1,080 cases, the others having been presented to the profession in 1879, 1881 and 1882, and subsequently published in the Transaction of the Society, Vols. IV, VI and VII.

Of the 1,080 cases, the average age was 23.55 years; 746 were primipara, with an average age of 22.11 years; 334 were multipara, with an average age of 26.53 years. The average number of days in child-bed, at the time of measurement, was 16.32. The smallest measurement of the uterine cavity in a primipara was $1\frac{1}{2}$ inches; in a multipara, two inches. The first measurement was made on the fifteenth day, the second on the sixteenth day. The greatest size of the uterine cavity was $5\frac{1}{2}$ inches for a primipara and $4\frac{1}{2}$ inches for a multipara, the observations having been made on the thirteenth and twenty-fourth days respectively. The average length of the uterine cavity was 3.27 inches for primipara and 3.29 inches for multipara.

In the course of their analysis, the writers found that the first stage of labor averaged fourteen hours in the primipara, and ten hours in the multipara; the second stage of labor averaged one hour and fifty-six minutes in the primipara, and one hour and eight minutes in the multipara.

LAPAROTOMY FOR INTRA-PELVIC PAIN.

DR. THOMAS A. ASHBY, of Baltimore, read a paper with the above title.

Dr. Ashby stated that intra-pelvic pain is associated with a number of intra-pelvic conditions, of structural, inflammatory, and neuralgic origin, and that the severity of the pain bears no appreciable relation to the magnitude of the disease. Pain, as a symptom, may be considered to stand alone, and not necessarily to be considered as an index of lesion. In cases of ovarian neuralgia, the nervous and hysterical elements should always be eliminated before deciding upon an opera-

tion. Aside from pains of a strictly neuralgic character, there are many in which the lesion can be definitely located only by an abdominal incision, among which are chronic inflammations, adhesions and vascular disturbances.

Dr. Ashby advised the employment of an exploratory incision in all cases not well defined, and considered such procedure warrantable for the purpose of making a diagnosis. He cited cases to uphold his position.

DR. KELLY, of Baltimore, eliminating personalities, would strongly condemn the practice of performing *laparotomy for pain*, notwithstanding that in some cases it affords the most typical relief. He believes oöphoralgia is rarely heard of, the condition which characterize it generally arising from some other disease of the organ. The admission of laparotomy for this condition would lead to the practice of seven or eight years ago when laparotomy was performed for every known disease. These ovarian troubles can always be diagnosed by bi-manual palpation or bi-rectal and bi-vaginal examination in anesthesia. The uterus can be brought down to the vaginal outlet with the corrugated tenaculum, when the ovaries can be easily gotten at. If extensive adhesions exist, the uterus may be brought down into retro-position and bi-rectal examination will disclose the ovary, a little, characteristic, almond-shaped body. If it is not found in this way the utero-ovarian ligament may be looked for running out to the right or left of the uterus. When this is found by pushing it up, it is easy to ascertain whether the ovary is adherent or not. Radical measures should not be resorted to until all other forms of treatment are exhausted.

DR. PALMER DUDLEY, of New York, was in favor of laparotomy for the relief of the conditions which produced pain, after all methods of treatment had failed. He believed it was impossible to diagnose certain diseased conditions of the ovary by bi-manual touch, and that laparotomy was the only proper procedure in such cases. Vascular disturbances is the foundation of the majority of pelvic diseases in women. There are no valves to the ovarian veins from the ovary up to the renal vein, and they are pressed upon by the sigmoid flexure of the colon and the transverse circulation of the kidney, sometimes causing what may be considered a varicocele. This condition has been noted by Skene, Lusk, Polk, Currier and Neilson as well as by the speaker. This pressure upon the vessels also produces sub-acute inflammation and formation of adhesions, which can only be broken up by laparotomy. The speaker had three cases where after a long-continued palliative treatment without relief, he had performed laparotomy, drained the cysts found in the ovary, allowed them to refill with blood, and then returned them to the abdominal cavity with immediate relief of the pain and rapid convalescence.

DR. POLK, of New York, understood Dr. Ashby to refer simply to an exploratory incision in these cases, and in that sense he thought he was entirely right. He did not believe it was possible in all cases to make out the diseased conditions of the ovaries by bi-rectal or bi-vaginal touch. He agreed with Dr. Dudley that in many cases an "exploratory incision" could be made into the ovary to discover the trouble, just as well as into the abdominal cavity, with the possibility of correcting the trouble, sewing up the ovary and replacing it thus avoiding complete amputation,

which he thought should never be done when it could possibly be avoided. He believed that catarrhal salpingitis does not justify amputation.

DR. HENRY T. BYFORD, of Chicago, believed that laparotomy should not be resorted to for the cure of pain that can be cured otherwise. He reported a case in which he at first performed Alexander's operation without relief; used palliative treatment, and finally laparotomy, removing both ovaries which contained small cysts. The patient's mind was affected, and now after the lapse of a year is in no better health. When the ovary is cut with a knife or suture it will form adhesions which may afterwards necessitate its entire removal. He had done this, and afterwards had to remove it on account of the adhesions, curing the disease.

DR. MATTHEW D. MANN, of Buffalo, did not believe that diagnosis was possible in all cases before the abdomen was opened. He believed in the exploratory incision as means of diagnosis. He doubted whether minute disease of the ovary could be recognized by a simple incision of the organ and was inclined to believe that the whole organ ought to be removed. He was confident that in a number of cases the ovaries and tubes have been removed when the trouble was entirely in the ureters.

DR. JOHNSON, of Washington, disagreed with Dr. Polk and believed that if the adhesions were broken up without taking out the ovary that the disease would return, and cited a case where he had taken out one ovary and broken up the adhesions, the patient apparently recovering, but six months afterwards the disease returned, necessitating a second operation in which he removed both ovaries and the woman has been perfectly well ever since. They should both have been removed in the first place and would have been but for the wish of the attending physician to save one of them. The first operation caused the bands of adhesions to shorten and bind the viscera closely together, presenting a difficulty at the second operation which would have been avoided had they both been removed at one time. If there is much disease it is better and safer for the patient to lose both ovaries than to be subject to the dangers of a second operation.

DR. POLK, of New York, recognized the justice of Dr. Johnson's remarks and believed that the condition he mentioned made it all the more necessary to carefully examine the opposite ovary for traces of any disease. If there was cystic degeneration to any extent it would be unwise to leave it in, but there are many cases in which there are not more than one or two good-sized cysts which can be removed in the manner suggested by Schroeder, and very few adhesions result; it not being necessary even to close the incision in the ovary with sutures unless it be necessary to control hemorrhage from the cut ovarian surfaces. He believed that adhesions sometimes exist forever, but that they were a matter of no importance except for a short time after the operation, and frequently in performing a second operation no traces of them are found except the lines along which the drainage-tube had rested.

At 1 p. m. the Society adjourned to meet in Washington, during the Triennial Congress of American Physicians and Surgeons, September 17, 18 and 19, 1891.

The following officers were elected for the coming year: President, Dr. A. Reeves Jackson, of Chicago; Vice-Presidents, Drs. Joseph Tabor Johnson, of Wash-

ington and William H. Baker of Boston; Secretary, Dr. Henry C. Coe, of New York; Treasurer, Dr. M. D. Mann, of Buffalo; Members of Council, Drs. H. P. C. Wilson of Baltimore, W. H. Polk of New York, E. C. W. Dudley of Chicago, and F. H. Davenport of Boston.

During the session of the Society lunches were tendered to the members by Drs. Mann of Buffalo, Dr. W. C. Ford of Utica, and Dr. Stansbury Sutton of Pittsburgh.

At the close of the morning session on the third day, at the invitation of the Buffalo Medical Club, the members made a trip to Niagara Falls, returning in the evening to attend a banquet given by the Buffalo Medical Club at the handsome club-house of the Buffalo Club on Delaware Avenue.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

SECOND DAY.—AFTERNOON SESSION.

DR. W. P. KING, of Kansas City, Missouri, contributed a paper entitled

WIRING THE SEPARATED SYMPHYSIS PUBIS, SUPPLEMENTED BY A NOVEL PELVIC CLAMP.

He reported a case of separation of the symphysis pubis, with fracture of the interposed fibro-cartilages, fracture of the descending ramus of the pubis, with deep lacerations of the surrounding parts, and, more particularly did he refer to the methods resorted to in order to support the pelvis and reinforce the stitches after the pubis had been wired together.

The case suggested the following points:

(1) The operation of wiring in a case of separation of the symphysis pubis so completely coaptates the parts that it would seem that scarcely any other method of dealing with this condition can be equal to it.

(2) The manner of applying the plaster-of-Paris support in the first place, with the use of the water-bag to make an arch under which to dress the wounded parts, is new and original so far as the author knows, and it is a method that may be adopted and easily practised by any one who knows how to use plaster-of-Paris.

(3) The steel hip clamp as a permanent support in separation of the pubis is also new, so far as he knew, and is a means that may be adopted with benefit in any case of fracture of the pelvis wherein immobilization of the fractured part will contribute to the comfort of the patient and to the union of the fracture.

DR. C. H. HUGHES, of St. Louis, Missouri, read a very elaborate and profound paper entitled

PSYCHO-PATHIC SEQUENCES OF HEREDITARY ALCOHOLIC ENTAILMENT,

which was followed by a paper on

UREA AND SEROUS MEMBRANES,

by DR. C. S. BOND, of Richmond, Indiana.

DR. ARCH DIXON, of Henderson, Ky., in a paper on

INGUINAL COLOTOMY,

said the subject of colotomy, always one of interest, has, during the past decade, demanded much attention

¹ Sixteenth Annual Meeting held in Louisville, Ky., October 8, 9, and 10, 1896. Concluded from page 420.

from the surgical world. As a measure intended to ward off imminent death, colotomy is called for in all cases of obstruction in the colon from whatever cause arising. For imperforate anus, the operation holds a special position. It is intended to prevent impending death, but it may or may not be regarded as a cure for the disease. In many cases it is the first step in the process of cure. In every infant born with imperforate anus, an operation of a local nature is first attempted, if this fails, colotomy by some method is performed to ward off death. Later on an attempt may be made to get the bowel to discharge through the anus. In a few words, it may be said that the indications to operate in any given case depend, in the first place, on the chance which the patient has of getting well without operation; and, in the second place, upon the degree of probability with which success follows the operation. To cases of acute obstruction of the sigmoid flexure, or elsewhere, there is practically but one termination—death. No case of volvulus, whether of large or small intestine, has as yet been known to recover under treatment purely medicinal. Here then, the indication is clear enough, as clear as the indication to tie a bleeding carotid—operation.

DR. DIXON reported an interesting case, after which he dwelt upon the comparative merits of the two operations, *inguinal* and *lumbar* colotomy.

DR. EMORY LAMPEAR, of Kansas City, Mo., read a paper on

HYPNOTISM IN ITS RELATION TO SURGERY,

and reported cases.

He reported a case of double talipes, in which the subject had a chronic Bright's disease which contraindicated the use of ether, and, at the same time, had an organic heart trouble, which prevented the safe use of chloroform. The patient wanted to be operated upon, and the doctor hesitated to give the ordinary anesthetic, and so hypnotized him. This was the first seance, and contrary to the generally accepted idea that at the first seance a sufficient degree of anesthesia cannot be produced to effect an operation, even at the first seance the doctor got a sufficient degree of anesthesia by suggestion by which he performed the operation for talipes, and the patient lay upon the table as fixed and immovable as a piece of marble during the whole operation.

Another case (reported by the permission of Dr. Shaw of St. Louis) was a patient suffering from Jacksonian epilepsy due to brain tumor. He was hypnotized. The scalp cut, an inch and a half trephine used, the dura mater opened, and a brain tumor weighing one ounce and a half removed. The bone was replaced, and the operation completed, occupying an hour without either chloroform or ether being used, the patient being simply hypnotized.

DR. THEO. POTTER, of Indianapolis, Ind., presented a paper entitled

CERTAINTY IN THE DIAGNOSIS OF TUBERCULOSIS, in which he said there was no important chronic disease in which our opinions, as physicians, are more frequently sought, are more weighty, and more subject to present and future criticism, than tuberculosis. The lack of specific curative treatment and of any great tendency to self-limitation after once well under headway; the destruction of tissue; the existence of subtle, predisposing as well as exciting, elements; the

establishment of the vicious circle, including the organs and channels of nutrition; the strange and often persistent delusion of hope; and, finally, the possibility of arrest or real cure; these factors call, in a peculiar way, for early treatment. But this must depend upon early diagnosis.

In spite of the constant progress from Laennec and Flint, there is no one sign and no combination of signs which is absolute. There is always some uncertainty, and in the early or unusual cases we are and often long remain uncertain. These are the golden weeks and months. But now, with the new light of the present added to the knowledge of the past, we are able to make the diagnosis in the great majority of cases, not only early, but with absolute certainty.

THE HYPODERMIC USE OF ARSENIC.

DR. HAROLD N. MOYER, of Chicago, Ill., contributed a paper on this subject. He said the hypodermic use of Fowler's solution has been recommended by various writers, among others, Hammond, who claimed that the dose which could be administered in this way was much greater than could safely be administered by the mouth; Hammond having given as high as fifty drops of Fowler's solution as an initial dose. Again, he has often carried the amount given by the mouth to the utmost bounds of prudence, till the eyes were puffed and vomiting was almost incessant, and then has continued the arsenic in larger doses, by the hypodermic injection, with the result of the cessation of all gastric symptoms and the cure of the disorder.

In a case of chorea, aged fourteen, female, the patient was placed immediately upon the hypodermic, beginning with three minims of the five-per-cent. solution, and increasing every second day, until three weeks after beginning treatment she was receiving thirteen minims of the solution at each injection, with an arsenic equivalent to about thirty-six minims of Fowler's solution. At the ninth injection she was discharged cured.

In the case of a woman who presented herself at the clinic, in Rush Medical College, with an enormous lymphadenoma of the side of the neck, after a few deep injections into the glandular mass it began rapidly to diminish; when it had lessened one-half, the patient ceased attending, and further results could not be noted.

Dr. Moyer's observation is in accord with numerous writers who have reported equally good results from the use of Fowler's solution in various forms of glandular enlargement passing under the terms, lymphoma, lymph adenoma, Hodgkin's disease. He said the action of arsenic given under the skin, if it have any virtue, must certainly be greater than when taken by the stomach. Thrown into the cellular tissue in the form of a feeble alkaline and readily soluble salt, it is at once absorbed by the blood and carried to all the tissues, administered in this way.

THIRD DAY. — MORNING SESSION.

DR. H. O. WALKER, of Detroit, Mich., read a paper on

PERINEAL CYSTOTOMY VERSUS SUPRAPUBIC CYSTOTOMY.

He said in the choice of method of operation we should be governed (1) as to its safety; (2) as to its simplicity of performance; (3) as to its rapidity of

result; (4) as to its general applicability in the majority of cases. Dr. Walker reported several cases in which he resorted to the perineal method.

The treatment of enlarged prostates with cystitis is equally efficacious by the perineal section and drainage, in furtherance of which he reported a very interesting case.

The perineal method of reaching the bladder is the oldest known to us, although numerous modifications have been made since the haphazard "cut on the gripe," for stone was first done. For the removal of stone litholapaxy undoubtedly stands preeminent, and can be done upon subjects from three years of age upwards, yet there are numerous restrictions to this method, such as stricture of the urethra, large-sized stone, an enormous prostate, etc. There can be no question, when cutting has to be done, that the medio-bilateral method presents the best advantages.

In looking up the literature at his command upon suprapubic operations since 1883, Dr. Walker finds in the record of between three and four hundred operations an average mortality of thirty per cent. A few operators have had a series of cases ranging from three to ten without a death, the most remarkable record in this respect is that of the distinguished surgeon, Dr. Hunter McGuire, twenty-one operations with but a single death. By the perineal method we find a mortality of but five, six, and seven per cent., rarely ever going beyond nine per cent.

DR. EDWIN WALKER, of Evansville, Ind., read a paper entitled

TWO CASES OF TUBAL PREGNANCY.

The first case was Mrs. E. S., age twenty-seven, married four years; sterile. She had a history of uterine and tubal trouble before marriage. Since marriage she had been an invalid, suffering pain in right groin. Menses always irregular, often missed a month or two. Was unwell June 29, 1890, but in July missed her menses. A few days later she began to suffer severe pain in the right groin. August 1st, sanguinous flow began and continued to time of operation. An examination under ether revealed a soft tumor the size of the fist, to the right and behind the uterus. August 17th, abdomen was opened, and the right tube, which was very large, found ruptured and a large amount of clotted blood in the pelvis; fetus not found. Abdomen irrigated with hot water; glass drainage-tube used. Some vomiting and pain, but recovery ensued without a bad symptom. Drain removed on the third, and sutures on the twelfth day. Highest temperature was 101.1°.

The author thinks that the present status of the question is, that with such a class of symptoms as presented in this and other cases, laparotomy is the safest procedure to adopt.

DR. WILLIAM T. BELFIELD, of Chicago, Ill., in a contribution entitled

RÉSUMÉ OF EXPERIENCE TO DATE, ALL OVER THE WORLD, IN THE VARIOUS OPERATIONS FOR CYSTITIS FROM PROSTATIC HYPERSTROPHY,

collected 133 cases of operations upon the hypertrophied prostate, including eight of his own as follows: 41 by perineal incision, mortality nine per cent.; 88 by suprapubic cystotomy, mortality sixteen per cent.; four by combined perineal and suprapubic incision, none fatal.

In 56 of these cases the essential facts before and after operation are furnished; they had been the subjects of cystitis, and dependent upon the catheter for periods varying from one to ten years. In all, the cystitis was cured; in 38 (two-thirds) voluntary urination was restored, and continued during the time of observation, six months to two and a half years; in 18 this function was not recovered. Fifteen of these 56 cases were complicated with stone: excluding these, since it might be objected that the cure resulted rather from the calculus extraction than from the prostatectomy, there remain 41 cases of uncomplicated prostatectomy; of these 32 (four-fifths) recovered the power of urination, in nine this ability was not recovered.

DR. EDWIN RICKETS, of Cincinnati, O., read a paper on "The Difficulty in Diagnosing a Twisted Ovarian Pedicle in Uterine Myoma;" DR. DAVID BARROW, of Lexington, Ky., one entitled "Three Cases of Intestinal Obstruction, with Remarks," and DR. R. R. KIME, of Petersburg, Ind., one entitled "Extra-Uterine Pregnancy, with report of a case of four years and three months duration, Complicated with Enterouterine Fistula."

AFTERNOON SESSION.

DR. SEATON NORMAN, of Evansville, Ind., contributed a paper entitled

TREATMENT OF ORGANIC STRicture OF THE MALE URETHRA,

in which he said in the practice of urethral surgery the operator cannot be too emphatically impressed with the fact of the requisite tenderness and sensitiveness of the urethra, and the employment of the slightest amount of force in the introduction of an instrument should be regarded as a relic of barbaric surgery. When commencing the treatment by gradual dilatation, in sensitive patients, he always produced local anesthesia by the injection of twenty to thirty minims of a four-per-cent. solution of hydrochlorate of cocaine.

Relative to internal urethrotomy, he believes that when it is properly and thoroughly executed and special care is exercised to maintain the patency of the canal until the wound is entirely healed, that recontraction is of rare occurrence. Authority is divided in regard to the performance of internal urethrotomy in the bulbous and membranous urethra. Judging from the results obtained by Harrison, the combination of external and internal urethrotomy offers encouragement for the permanent cure of stricture. Dr. Norman has performed external urethrotomy without a guide only three times, and his results as regards the non-occurrence of contraction have been entirely satisfactory. External urethrotomy with a guide is a simple operation, can be with facility and rapidity performed, and promises more satisfactory ultimate results than internal urethrotomy performed in the deep urethra.

Of the various scales that have been proposed for urethral instruments, only the French system, in the opinion of Dr. Norman, is worthy of consideration. To have urethrotomes graduated in millimetres (and all of them with which the author is familiar are so manufactured), and the sounds corresponding to the English, or any other scale, is, in his judgment, a manifest absurdity.

DR. L. S. MCMURTRY, of Louisville, Ky., made some impromptu remarks on

THE APPLICATION OF ANTISEPTIC METHODS IN MIDWIFERY PRACTICE.

He said many medical practitioners can remember the time when they heard that the wards of certain hospitals were closed and undergoing renovation because puerperal fever had become epidemic in such institutions. The hospital to-day is the safest place in which a woman can be confined. A few years ago, led by Fordyce Barker, we were taught that puerperal fever was an entity, a distinct fever, dependent upon a separate *materies morbi*, just the same as malarial fever is an entity. To-day, we know that puerperal fever, so-called, is a septic peritonitis, just the same as when a woman becomes infected after abdominal section, or after wounds of the peritoneum from any cause, or from infection of the endometrium and through the Fallopian tubes to the peritonium. A woman after labor is a wounded woman. She has undergone certain physiological processes; she has received certain injuries in the process of labor which open the lymphatic channels, by which she may have become infected from without. There is no such thing as a woman having a peritonitis, unless she is infected from without. To prevent this infection, the vagina must be sterilized, the bed surgically clean, the examining finger clean, the nurse clean, and the atmosphere as approximately aseptic as it is possible to make it, etc.

The following papers were also read: "The Advantages of Attending Medical Societies and of Reading Medical Journals," by DR. T. B. GREENLEY, of West Point, Ky.; "Internal Urethrotomy with Cases," by DR. J. V. PREWITT, of West Point, Ky.; "Was it Relapsing Fever?" by A. D. BARR, Calamine Springs, Ark.; "Some Remarks on the Prevention of Myopia," by DR. FRANCIS DOWLING, of Cincinnati, O., etc.

Officers for 1891. — President, DR. C. H. HUGHES, St. Louis, Mo.; First Vice-president, DR. JOHN H. HOLLISTER, Chicago, Ill.; Second Vice-president, DR. S. S. THORN, Toledo, O.; Secretary, DR. E. S. McKEE, Cincinnati, O.

Place of meeting, St. Louis, Mo., October 21, 1891.

Recent Literature.

College Botany, Including Organography, Vegetable Histology, Physiology and Taxonomy; With a Brief Description of the Succession of Plants in Geologic Time, and a Glossary of Botanical Terms. Nearly six hundred illustrations. By EDSON S. BASTIN, A.M., F.R.M.S., Professor of Botany, Materin Medicis and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engelhard & Co. 1890.

This book would be a source of instruction and pleasure to any student of botany with an elementary knowledge of the subject. It is an excellent text-book for an elementary college course, and it would be an interesting addition to the library of most physicians, although it contains but little medicinal botany. The parts of the book on histology and physiology of the higher plants are especially interesting.

Although no attempt is made to describe individual species, a moderately full, and for most students sufficient classification and description of the lower plants is given, but only a general outline of the nomenclature of Phanerogamia. A good glossary of botanical terms adds much to the usefulness of the book.

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Medical and Surgical Journal.

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INDEX CATALOGUE (VOLUME XI) OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

The eleventh annual volume of the "Index Catalogue of the Library of the Surgeon-General's Office of the United States Army" has just appeared. The present volume includes "Phaedronus" - "Régent." The prefatory note shows that it contains 9,539 author-titles representing 4,585 volumes and 8,908 pamphlets, and 14,262 subject-titles of separate books and pamphlets, and 38,080 titles of articles in periodicals.

An interesting feature of this volume is the word "physician." Under that head are included all the books, pamphlets and magazine articles which are signed "Physician" by their modest authors, and also all those articles and addresses which treat of the duties, the rights, the privileges, and all the possible attributes and belongings of the physician.

The physician, as a nameless author, attracts particular attention in the following title which stands among other titles, with the same signature, as a giant among pygmies. "Physician (A). A physical dissertation on drowning: in which submersion, commonly called drowning, is shown to be a long time consistent with the continuance of life, from a variety of unexceptionable though surprising facts, related by the most eminent and judicious authors, and confirmed by incontestable evidence; which facts are reconciled and accounted for, from the strictest laws of the animal economy. To which is subjoined the proper measures for recovery and relief; the obligations we lie under to practice them are clearly suggested and strongly enfor'd; intended for the good of mankind, by restoring life to many persons who are erroneously supposed to be irretrievably drowned. Recommended particularly to the consideration of the navy and army, who have frequent opportunities of practising the methods recommended. With an appendix, containing some methods for the recovery of those who hang themselves and of children supposed to be born dead, 80 pp., 1 pl., 12mo. London : J. Robinson. 1746."

The number of introductory and valedictory addresses catalogued, is naturally very great. It is curious to notice the similarity of titles in various languages, showing that the same ideas of the physician's duties are to be found in many lands and that the same good advice is given by the aged to the young, in different languages and in different centuries.

While enjoying the impression made by the new volume, the following paragraph appeared in one of the Boston daily papers, and seems to convey a warning to admirers of this giant Index :

"The multiplication of great dictionaries has one serious objection, it seems to me, and that is the opportunity which it affords for unskillful and ambitious writers and conversers to 'load up,' as it were, with epithets which they are incompetent to handle. A great dictionary is a superb armory for a man like Ruskin, although tempting to his besetting sin of magniloquence, but I think he hardly needed such resources as it would afford to lesser men. Choate found inspiration in the dictionary, but it lured him on to redundancy of adjectives, and I can well understand that Mr. Justice Wilde's remark, on being told that the new edition of one of the rival dictionaries had several thousand additional words, had something more than a humorous application, 'I hope Choate won't get hold of it,' said the learned judge."

It is a subject of remark on the part of certain cavaliers that the articles that make up the current medical literature have a tendency to follow a certain line in that the majority of such articles are made up of an unusual case and a more or less perfect résumé of all known literature on the subject; and the question arises whether the "Index Catalogue" does not offer facilities for the easy construction of such articles.

There can be but one answer. It certainly is easier than ever before to construct a composite article on all subjects included in the alphabet up to R. But even if there is greater facility for loose writing, the "Index Catalogue" is a "superb armory" for medical scholars; and it would be easy to mention certain scholars who have used the Index to the great advantage of the general profession.

AUTOPSIES IN AMERICA.

MOST American physicians realize the great advantages for promoting the advancement of knowledge which the medical profession of the continent of Europe have in comparison with us, in being able to procure and report a large number of autopsies. The report of a fatal case is not complete, and the statistics of a fatal disease are comparatively worthless without the certain knowledge which only an autopsy can give.

The fault, of course, lies in our laws, and the law is, undoubtedly, the expression of the will of the laity, and cannot be altered without a change in public opinion; but is not the medical profession also partly to blame? Is not the repugnance which is felt to autopsies in the community due largely to their infrequency?

In countries where post-mortems are considered almost as much a necessary part of death as the services of the undertaker, very little opposition is met with, even from the less intelligent part of the community. In some European States all bodies are removed to a dead-house within twenty-four hours of death, where the diagnosis of death is confirmed, and an autopsy done. In at least one city a law exists that if any person objects to an examination, a complete autopsy must be made.

The American physician is often indifferent or careless after his patient is dead. Except in large cities, it is difficult to undertake a post-mortem examination, and even where it would be comparatively easy, a busy doctor will often prefer to remain in doubt rather than undertake a disagreeable extra amount of work, and perhaps at the same time run the risk of offending the bereaved family. But every post-mortem that is made is so much aid in moulding public opinion, and it seems more than likely that if the medical profession as a whole should systematically request an examination whenever possible, the feeling in the community would soon change. Great assistance might be given in cities by a system which would make the details easy and inexpensive.

We already have laws demanding an autopsy in cases of suspicious death. Would it be too much to ask to have a law allowing a post-mortem on all patients who die in public institutions? This would be a great gain, for these cases have, as a rule, good ante-mortem clinical histories, and the autopsy can be held under the most favorable circumstances. The principal objections to such a law at present are, (1) a rare and indefinite semi-religious feeling connected with the resurrection of the body, in the presence of which feeling no one would want to enforce such a law; (2) the common feeling, already mentioned, of repugnance to the mutilation of the body of a relative, which is now the main stumbling-block; and (3) the fear in the public mind, of ante-mortem autopsies. But the physician realizes that the signs of death are better understood by the pathologist than by the undertaker, and the danger of a premature autopsy is much less than the danger which now exists of premature embalming, nor is the mutilation of the body materially greater. The idea which we occasionally meet among the lower classes that the officers of a hospital take a fiendish delight in dissecting dead bodies, and rather desire the death of a patient in order to get a chance, might at first keep a few cases from going to institutions, but it probably would not do so for any length of time.

It is not necessary to discuss at length the advantages to the medical profession and to the laity of frequent autopsies, or their influence on insurance and mortality statistics and on quackery. Let us hope that before long not only will the physician know that the death certificate which he signs is absolutely true, but that the laity will prefer to know of what diseases their relatives die.

OBITUARY. HENRY JACOB BIGELOW, M.D.

HENRY JACOB BIGELOW, M.D., died at his country house in Newton, Mass., on Thursday, October 30th, at the age of seventy-two.

For the last few years Dr. Bigelow has been subject to gastric disturbances and attacks of hepatic colic; and for several days before his death his stomach refused to retain food. A post-mortem examination showed the presence of gall-stones, and an inflammation of the common duct, which had extended to the smaller bile-ducts, and was attended with the formation of several small abscesses of the liver. There was also a fibrous stenosis of the pylorus and a slight consequent dilatation of the stomach. The pulmonary affection which was the cause of a temporary abandonment of his medical studies in his early manhood had left its traces at the apices of his lungs.

Dr. Henry J. Bigelow was born in Boston on March 11, 1818. He was the son of Dr. Jacob Bigelow, who left a name distinguished in the profession and by many acts of public benefit. He prepared for college at the Boston Latin School, and graduated at Harvard in the class of 1837. His medical studies, which were pursued with his father and at Harvard, were interrupted by ill health, and a consequent trip to Europe. His medical degree was taken in 1841. He immediately returned to Europe, where he spent three years in the further study of his profession, a greater part of this time being spent in Paris. After his return to Boston he was, in 1845, appointed instructor in surgery in the Tremont Street Medical School, succeeding Dr. Reynolds. This position he held until this school was united with the Medical School of Harvard University. In 1846 he was appointed surgeon to the Massachusetts General Hospital. In 1849 he was appointed Professor of Surgery, the two chairs of Surgery and Clinical Surgery, previously held respectively by Dr. J. C. Warren and Dr. George Hayward, being united.

A few months after his appointment as surgeon to the hospital, ether was first used in the hospital amphitheatre for surgical anaesthesia. Dr. Bigelow was one of the first to see the value of the discovery, and he was specially influential in extending the use of anaesthesia in surgical operations. It was chiefly through his paper on the subject that the knowledge of the wonderful discovery was made known.

Dr. Bigelow's writings have not been voluminous, but as contributions to surgical knowledge they have completely changed surgical practice in several particulars. His interest in anesthesia and anesthetics has been repeatedly shown by various articles on ether, nitrous oxide and on rhigolene, a petroleum naphtha for producing anesthesia by freezing. The famous case of Dr. Harlow's of the passage of a crowbar through the head, was made known chiefly through Dr. Bigelow's interest and study of the case. His work on "Dislocation of the Hip-Joint" has banished the old pulleys and rings for its adjustment from the operating theatre.

His litholapaxy has revolutionized the treatment of stone in the bladder and given rise to a literature that far exceeds in volume the united writings of its famous inventor.

But the mere enumeration of his writings fails to show the great influence of the man. He had a unique way of regarding all subjects that attracted his notice. The hospital with which he was connected, shows, in many places, his originality and in-

ventiveness. Acute, clear-sighted, and inventive as he was, he was capable of most close and severe study. The hard work which he bestowed upon the mechanism of the hip-joint extended over several years. His operation of litholapaxy and the instruments for its performance were the result of painstaking labor.

As a teacher he had the power of impressing himself upon his pupils, and of leaving in their minds a sentence or a few words that contained the truth he wished to convey.

He resigned his professorship in 1882, and his connection with the Massachusetts General Hospital in 1886. During the succeeding years he has led a quiet life, for the most part at his country house, where he has taken great interest in the pursuits of a country life, and in these details he has shown the same marked individuality that characterized his surgical career.

MEMORIAL. HENRY J. BIGELOW, M.D.

BOSTON, MASS., November 3, 1890.

MR. EDITOR: — At the meeting of the Faculty of the Harvard University Medical School, held Saturday, November 1st, it was voted that a copy of the following short memorial of Dr. Henry J. Bigelow, which was offered by Dr. R. H. Fitz, be sent to the *Boston Medical and Surgical Journal* for publication.

"The Medical Faculty of Harvard University desires to enter in the Records its appreciation of the eminent services rendered by the late Henry Jacob Bigelow to the Medical School, with which he was connected as Professor of Surgery and Professor of Surgery, Emeritus, for more than forty years.

"Remarkably gifted by nature, his talents were made unusually productive and useful by his intense devotion to the work of the moment, only ceasing with the successful accomplishment of the task.

"His lectures were models of condensed thought and applied knowledge, and were delivered with an aptness of dictation and a richness of illustration which made them ever memorable.

"As a member of the Faculty he was distinguished for the ripeness of his judgment, the wisdom of his conclusions, and the clearness and force of his arguments. Whether as advocate or opponent he was sure to add new light to the subjects under discussion, and was always to be recognized as a leader of men.

"His late and last communication to this Faculty showed a benevolent and beneficent interest in the continued welfare of the School."

Yours truly,
C. P. WORCESTER, M.D., Sec.

MEDICAL NOTES.

— The result of seven years' operation of the Medical Practice Acts in Minnesota has been to reduce the ratio of physicians to population from 1 to 650 to 1 to 1,250. During the last three years 205 candidates presented themselves for examination and 77 of these were rejected.

— The Russian Government has announced that at the end of five years, the decimal system of weights and measures shall be the only legal standard. Great Britain and the United States will then be the only civilized nations which use the ancient systems.

— Dr. Justus E. Gregory, of Brooklyn, recently died suddenly, from the effects of chloroform, in a drug-store. Dr. Gregory had been suffering from neuralgia in the temple, and to relieve the pain was accustomed to inhale chloroform, in the use of which drug he was considered an expert. He went into the store and saying that his eye pained him asked for the chloroform, and sat down to inhale it. A short time later he was found dead.

— The chair of Materia Medica in the Jefferson Medical College, Philadelphia, which has been filled by Dr. Robert Bartholow, was recently declared vacant at a special meeting of the Board of Trustees on the ground that Dr. Bartholow was mentally incapable of holding the position. Among the names suggested for the vacant position are those of Dr. Thomas J. Maya, Dr. S. Solis Cohen, and Dr. Samuel O. L. Potter, Professor of Practice of Medicine in Cooper Medical College, San Francisco.

— The Board of Health of Chester, Pa., have discovered a case of leprosy in that city, and have taken prompt action to have the patient properly quarantined. The unfortunate victim is a Swede, about forty years of age, who has been in this country for about nine years. He was formerly a sailor on coastwise vessels, and is supposed to have contracted the disease on board ship. The first evidence of the infection appeared nearly three years ago, when a small patch showed itself over his eye.

— The following are answers to questions in a recent Minnesota State examination:

"The physical properties of normal urine are hydrogen principally, together with the phosphates taken from the system, also urates and coloring matter such as indigoine, etc."

"An alkaloid is a residue or inferior part left after the principal part of a substance is taken away."

"Symptoms of scarlet fever — malice on the part of the child the sequelae may be death or recovery."

"In cases of death from suffocation the bronchia remain *'in situ quo'* and normal, possibly very little congested."

"The glans penis passes through the prostate gland. There is three lobes or parts of said gland."

"The histological elements found in the human body are blood, urine, saliva, gall, sinovia, and other secretions of glands and membranes."

"The histological elements found in the human body are carbon, oxygen, hydrogen, nitrogen and various gases."

— The prostration, says the *British Medical Journal*, from which the King of Holland is now suffering, is due to uremic poisoning, the result of chronic nephritis of long standing. In the opinion of his physicians, who met a few days since in consultation, the disease has so impaired his consciousness and brain power, as to make it absolutely necessary that the question of a regency should be immediately consid-

ered. This is the second attack of the kind which the king has had. His age is now seventy-four, and the result of the last consultation has been to compel his physicians to make a very serious representation on the subject. Medically, his condition holds out very little hope of recovery.

—The British Minister has transmitted to the Department of State a letter from the Governor of Sierra Leone, inclosing a report from the colonial surgeon at Freetown, Dr. D. Palmer Ross, relative to the case of the nine American missionaries at that place, of whom two were women. They were staunch believers in "faith healings," and consequently took no medicine until three had died and two were very sick with tropical fever, when pressure was brought to bear on them on the ground that they were endangering the community. In view of these facts and of the statement in the *Missionary Review* that another party of missionaries are expected, the Governor of Sierra Leone calls attention to the matter, "as this climate is not suited to those who trust alone to faith healing and ignore the means placed by Providence at their disposal for the relief of suffering humanity."

BOSTON.

—To diminish the danger to life and property from electric wires, the Common Council have passed an ordinance to appoint an inspector of wires, who shall have charge of all wires in the city.

NEW YORK.

—The annual meeting of St. John's Guild was held October 28th, when the reports showed that during the past summer the floating hospital of the Guild made 26 trips, and carried in all 26,136 children with their mothers. At the seaside hospital, which is the largest of its kind in the world, 1,543 mothers and children were cared for.

—The conviction of Joseph Wood, the negro murderer, having been affirmed by the Court of Appeals, he was sentenced October 31st to suffer the death penalty by electricity at Sing Sing prison during the week beginning December 1st.

—James F. Wall, a clerk in the Surrogate's office of Brooklyn, died at the Brooklyn City Hospital, October 30th, under the administration of ether for a surgical operation. It is said that only four drachms of ether had been used when the fatal result occurred.

Miscellany.

LEPROSY IN VENEZUELA.

THE report on leprosy in Venezuela, made to the State Department by the Consul at Maracaibo, describes at considerable length the introduction of the scourge in 1825, when a sufferer from Santa Domingo landed at Maracaibo and spread the infection. In the course of three years the evil had attained such proportions that an island about four miles distant from

the city was set apart for the isolation of incurables. There are now about one hundred and twenty-five patients on the island.

It was at first a much mooted point as to whether marriages should be permitted among the patients. It has always been well understood that a union between a sound and a diseased person would be liable to result in the propagation of diseased offspring, but it was believed that marriage between two undoubtedly lepers was sure to be fruitless; so, after a long discussion, the necessary permission was given, and a number of weddings were celebrated. For years the theory of sterility was not contradicted by experience and seemed about to be definitely settled, when two births occurred on the island, the parents in each case being lepers. Neither of the children have as yet shown symptoms of the disease, and in March of last year one of them, who had reached the age of fourteen years, having passed his whole life on the island with his leprous parents, was allowed to return to society.

Sound wives have been living with diseased husbands, some of whom have arrived at the last and most loathsome stages of the malady. Daughters have ministered to their afflicted mothers for years, and at the death of the latter have returned to the world, where they are to-day healthy mothers of healthy families.

A SIMPLE FEMALE CATHETER.

A SIMPLE female catheter is described in the *British Medical Journal* of June 23d, by Otto Kustner, consisting of a simple glass tube, open at both ends. The advantages claimed for it are that it is easy to clean and sterilize, and is so smooth that abrasion of the mucous membrane is almost impossible. A modification is suggested in the issue of October 18th, by Ralph Worrall of Sydney, New South Wales, whose catheter is made from a piece of glass tubing the size of a No. 8 male gum elastic catheter, eight inches long. One end is melted in the spirit lamp until quite round and smooth. A point one inch from the other end is also softened in the flame, and then this portion is bent down at right angles to the shaft. A catheter with this bend has an immense advantage over a straight tube. It renders the admission of air into the bladder impossible, and it prevents the last drops of urine from trickling back along the shaft.

DISINFECTION OF THE HANDS.

BALL¹ has carefully investigated the subject of disinfection of the hands, in order to establish a routine which shall be sufficiently thorough to be sure of complete sterilization even with previously infected hands, and at the same time sufficiently simple to be properly carried out by any one. His experiments show that the following method answers these requirements better than any other, and that if the details are completely carried out, all micro-organisms are removed:

(1) The finger-nails, whether long or short, are first freed from any visible dirt with a knife or scissors.

(2) The hands and nails are then scrubbed with a nail-brush for three minutes with warm water and a potassium soap.

¹ Deutsche Med. Wochenschrift, No. 7, 1890.

(3) The hands are then washed for half a minute in a three per cent. carbolic acid solution and then in a 1-2000 solution of corrosive sublimate.

(4) Finally the places under and around the nails are rubbed with iodoform gauze, previously soaked in a five per cent. solution of carbolic acid.

THE ELECTRIC LIGHT AS AN ANALGESIC.

VON STEIN of Moscow, says *La France Medical*, reports several cases of different painful affections which have been relieved as if by magic by the electric light. The apparatus which he uses consists of a small incandescent lamp about two inches long, with a reflector in the shape of a funnel, which is applied directly to the skin over the seat of pain. For the head and neck it is left in position for ten or fifteen seconds, but for other parts of the body it remains from one to five minutes, or until the patient complains of the heat. The author has obtained remarkable results in cases of intercostal neuralgia, rheumatic pains of the shoulder, lumbago and severe pain in other parts of the body. The number of applications for permanent relief differs much, sometimes one being all that is necessary.

ERYSIPelas AS A CURE FOR DIPHTHERIA.

A PAPER on this subject by Babinsky is referred to in the *Centralblatt für die Gesammte Therapie*, September, 1890. In the course of a very severe case of diphtheria of the nasal passages, there developed from the region of the nose an extensive erysipelas, with the remarkable result that all previously severe symptoms began to improve, and the patient finally got well. After seeing two similar cases which seemed to show the influence of erysipelas on diphtheria, the author inoculated a child who had scarlet fever and diphtheria with blood from an erysipelatous infection, and the child recovered. Since then he has inoculated fourteen cases of diphtheria from cultures of the coccus of erysipelas. Two of them died before the appearance of the eruption; the other twelve showed the eruption of erysipelas and recovered. It is to be noted that the infection thus artificially produced in all cases was of a benign character.

STOMACH WASHING IN VERY YOUNG CHILDREN.

In order to discover the therapeutic value of lavage of the stomach in very young children, Froitzyk (*Vratch*, Nos. 26 and 27, 1890) tabulated the results obtained in sixty-five babies of from two weeks to four months of age. A Nélaton sound was used, with a glass funnel, and the stomach washed out with a three-per cent. solution of salicylate of soda, in water which had previously been boiled. At least two washings were required to entirely stop vomiting. The treatment was well borne by the children.

The author concludes as follows:

(1) Lavage of the stomach is a valuable means of stopping the development of gastro-intestinal inflammation, especially if begun early.

(2) The most favorable results are obtained in cases of dyspepsia without fever, especially if the stomach

alone is at fault; the improvement is slower in gastro-intestinal affections, and still less marked in purely intestinal trouble.

(3) It is as useful in acute gastro-intestinal disease as in summer diarrhoea, but is not in itself sufficient, and must be aided by other therapeutic measures.

(4) Chronic forms of gastro-intestinal disturbance are improved by this treatment, but must also be supplemented by other means.

DECOMPOSITION OF CHLOROFORM BY ARTIFICIAL LIGHT.

AMONG the disadvantages of chloroform as an anesthetic has been noticed the decomposition of the vapor in the presence of artificial light, especially gas; producing irritating and noxious fumes. These have been analyzed by Kunkel¹ and found to consist principally of hydrochloric acid. Where free ventilation is not possible, he recommends the use of different fluids to neutralize the acid, either exposed in large basins or as a spray. Water in sufficient quantities is suitable for this purpose, or lime water, or solutions of soda or borax.

THE SURGICAL TREATMENT OF TUBERCULAR PERITONITIS.

THE surprising and inexplicable success which has attended the opening of the peritoneal cavity for the treatment of tubercular peritonitis, is the subject of an editorial in the *University Medical Magazine* for November. Evidence has been accumulating till it is now convincing, that even an exploratory incision is frequently followed by permanent cure of the local tubercular processes.

König (*Centralblatt für Chirurgie*, No. 35, 1890) has collected 131 cases of peritoneal tuberculosis treated by abdominal section, of which 23 were greatly improved; 84 were cured (65 per cent.); of these cases 30 (24 per cent.) exhibited no signs of intra-peritoneal tuberculosis for several years following abdominal section. In only three per cent. could death be attributed to the operation. As to the method by which these cures were obtained, examination of the cases shows that there was only one condition common to all; that is, the belly was freely opened, and a certain amount of intra-peritoneal manipulation was practised. Even the employment of anti-bacterial agents seems to be absolutely without influence, except that apparently a greater percentage of cures followed where no disinfectants were used.

A question of major importance is as to whether only certain forms of peritoneal tuberculosis can be cured by section. As is well-known, the effusion may be serous, sero-fibrinous or purulent; may be circumscribed or diffuse. The tubercles may vary in size, being miliary in one case, in another as large as a hazel-nut. The peritoneum may be smooth, roughened, thickened or covered with a pseudo-membrane. In so far as clinical studies go, it would seem that all these different forms have undergone resolution after abdominal section, and consequently that they are all curable.

Peritoneal tuberculosis is dependent upon extension of the tubercular inflammation from adjacent organs,

¹ Centralblatt für Chirurgie, No. 40, 1890.

or to direct infection by means of the bacilli circulating in the blood. Phillips found the lungs involved in ninety-two per cent. of the cases, the pleura also in fifty-six and the bowel in seventy-five. Intestinal invasion by tubercle is frequent, the serosa becoming quickly involved, but this involvement may remain strictly localized, and may undergo spontaneous resolution if the original source of infection, the intestinal lesion, cicatrizes. When, however, the peritoneal involvement comes from a large organ, and is extensive, it is as difficult to conceive the rationale of spontaneous resolution as it is to explain in what way operative procedure, except that of total ablation of the disease, can possibly be of the slightest avail. Yet the fact remains that a gratifying percentage of success follows simple opening and intra-abdominal manipulation in cases of tubercular peritonitis.

Correspondence.

SEVENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

WASHINGTON, D. C., October 27, 1890.

MR. EDITOR:—I am requested by the honorable secretaries of the Committee of Organization of the Seventh International Congress of Hygiene and Demography to call attention to the fact that this Congress will be held in London during the week beginning August 10, 1891.

The governments of all countries and municipalities, and all public health authorities, universities, colleges and societies occupied in the study of the sciences more or less immediately connected with Hygiene are invited to co-operate, and appoint delegates to represent them at the Congress. The Prince of Wales will preside.

A Committee of Organization has been formed, of which Sir Douglas Galton is chairman, and Prof. W. H. Corfield and Mr. Shirley F. Murphy are honorary secretaries. An exhibition of articles of hygienic interest will be held in connection with the Congress. The last of these Congresses was held in Vienna in 1887, and was attended by over two thousand persons, and it is expected that the London meeting will be one of great magnitude and importance.

Very respectfully,

JOHN S. BILLINGS, M.D.,

Member of the International Permanent Committee.

THE AGARICUS RODMANI NOT A POISONOUS MUSHROOM.

22 MONUMENT SQUARE, CHARLESTOWN DISTRICT, BOSTON, 24th October, 1890.

MR. EDITOR:—In the discussion which followed the reading of a paper of mine on "Mushrooms," before the Boston Society for Medical Improvement, the statement was made by Dr. Farlow that poisoning had sometimes followed the use of the common meadow mushroom, or, at least, one of its varieties, and that a fatal case had recently been reported; a statement which startled me and also many of those present, and probably deterred them from personally trying any of the common edible varieties of which I had spoken. Professor Farlow gave as his authority Prof. John Macoon, of Ottawa. I have recently obtained a copy of the *Ottawa Naturalist* for January and February, 1889, in which appeared the article by Professor Macoon. I fail to find in it the slightest evidence presented that the death reported was due to the variety mentioned (*Agaricus Rodmani*), or even that it was the one eaten. To show how easy it is to give a dog a bad name, I quote from that journal, pp. 142-143:

"During the evening the following note, by Prof. John Macoon, on "The Poisonous Properties of the Agaricus Rodmani," was read:

"During the past autumn many edible mushrooms have been collected in the vicinity of the city, some of which have had doubts thrown upon their value by an unfortunate occurrence which took place early in September.

"A lady purchased two lots of mushrooms on the market, one from the grocer, and the other from the open market. The latter lot was that from which the lady partook, and which resulted in her death.

"Later in September, Mr. Martin Benson of this city, also purchased a lot on the market, and when they were being cooked his wife noticed that they had an offensive smell, and the family refused to eat them. A few were sent to the writer, who advised Mr. Benson not to use them as they were, to say the least of it, unpleasant to both taste and smell.

"A few were dried, and then forwarded to Prof. Charles Peck, New York State Botanist, who is the highest authority on Agarics in America. He reported that the mushroom in question was related to the edible one, and that it had been found in New York State and in France. He said that in France it was popularly known under the name of *Agaricus Rodmani*, but that upon his own suspicion, but for the part he did not think it was poisonous, owing to its woody nature and unpleasant smell, he did not set much value on it. Its scientific name is *Agaricus Rodmani*, having been named after its discoverer. It differs from the common mushroom in having an unpleasant smell while being cooked, in being quite firm and not expanding nearly so much, and in the stem being quite large where it joins the cap and tapering to the point, which seems to enter the soil to some depth."

Mr. Peck, in the "Report of the Botanist for 1883" (N. Y. Sen. Doc. No. 53), page 45, says of *AGARICUS RODMANI*, Pk.:

"This species is intermediate between *A. campestris* and *A. arvensis*. . . . The flesh is quite thick and firm its thickness The stem is thick, exceeding in diameter that of the lamellae. This character, together with the solidity of the stem, indicates a disposition in the species to produce flesh rather than fruit, and may make it more desirable for cultivation than the common mushroom [the italics are mine]. . . . The species is respectfully dedicated to its discoverer [Rev. W. Rodman]. Its edible qualities are deemed equal to those of the common edible mushroom. It has been tested by Mr. G. Rodman. It is apparently a rare species, but may be more common than is supposed, for it may possibly have been heretofore confused with the common mushroom, which it much resembles in color."

The quotations given are sufficient, and do not need further comment from Yours very truly,

EDWARD JACOB FORSTER, M.D.

CONSUMPTION IN MASSACHUSETTS.

BOSTON, October 21, 1890.

MR. EDITOR:—In the matter of the prevalence of consumption, I would like to make a suggestion, and enter a plea for Massachusetts.

In the very able paper of the late Dr. W. Everett Smith upon the relations of climate to health and disease communicated to the Massachusetts Medical Society,¹ he says: "The census of 1880 gives presumptive evidence that the greatest prevalence of pneumonia is in the Southern and Southwestern States" (fol. 126).

Perfection in vital statistics is no more likely to be reached than in human nature. It is, however, generally acknowledged that those of Massachusetts approach it more nearly at present than those of any other sister State where a general registration law exists. There are several reasons why this result is more easily attained here, which it is not necessary to my purpose to mention. All comparisons of the vital statistics of Massachusetts with those of her sister States, and consequently all presumptions and sanitary inferences therefrom are absolutely valueless, (1) because general registration laws exist in but very few of the States, and (2), for the reason that where they exist they are very imperfectly administered.

In the principal cities of the country where registration exists under or in the absence of a general law, we have

¹ Relations of Climate to Health and Disease. Med. Com. Mass. Med. Soc.

no special reasons to doubt the accuracy of the returns other than those which will apply to Massachusetts; but statistics of cities will not answer the purpose of general statistics.

Presuming those Southern States having a majority of negroes in their populations to have general registration laws, the sparseness and ignorance of the populations in the country districts would, with the customs of the country, render any efficient enforcement of them impossible under ordinary conditions, even without recognizing as a factor the general indifference and absence of comprehension of the value of such laws among the better educated.

I have in my mind one Southern State which has had a registration law upon its statute book for several years. Not long since, in looking over the printed report of its Board of Health, which had been presented to the Legislature, and was a full-fledged public document, I found in one county, in which was a city of 30,000 inhabitants, *fourteen deaths reported as the total mortality for the year*; and in another county, with a city of 25,000 inhabitants, *a death-rate for the same year of twenty-four!* I contend,

therefore, that the presumption of Dr. Smith, *loc. cit.*, although it is in our favor, is without reasonable foundation if based upon statistics.

Dr. French, in his paper upon "Consumption in Massachusetts," in your issue of October 9th, states the showing of the Census, 1880 (based on valueless returns), to be that "the mortality in the United States from consumption is 12.05 per cent. of the entire mortality, or less than four-fifths as great as it was in Massachusetts alone during the years mentioned" (the italics are mine), and then asks, "Why this excess in Massachusetts?"

I reply that it is not yet proven, and cannot at present be proven, that any such excess exists, or that Massachusetts is entitled to any prominence in this dread disease over her sister States located upon our exposed Atlantic coast, from Massachusetts to Florida.

If presumptions are allowable, I shall presume that the undue prominence given Massachusetts in the mortality from consumption is entirely due to the superior accuracy of her vital statistics, and has no foundation in fact.

Very truly yours, GEORGE R. STETSON.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 25, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,623,237	601	223	13.60	15.81	3.27	3.91	1.19
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,064,377	340	109	13.92	11.02	6.09	2.61	2.61
Brooklyn	852,467	324	125	17.36	10.85	6.82	3.41	1.55
St. Louis	550,000	148	58	14.07	7.37	6.03	2.68	3.35
Baltimore	500,343	148	48	16.75	12.06	6.70	4.02	2.01
Boston	446,507	163	45	11.59	13.20	2.44	6.10	2.44
Cincinnati	325,000	98	87	17.34	11.22	11.22	—	6.12
New Orleans	260,000	136	44	17.02	11.84	.74	8.14	.74
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	230,000	—	—	—	—	—	—	—
Washington	220,000	94	33	18.02	18.02	7.42	4.26	4.26
Nashville	68,513	32	8	28.17	15.65	—	12.62	12.62
Charleston	60,145	34	5	8.82	11.76	—	8.82	—
Portland	42,000	13	1	7.69	30.76	7.69	—	—
Worcester	84,536	24	10	8.32	8.32	—	4.16	4.16
Lowell	77,605	25	8	24.00	16.00	8.00	1.00	12.00
Fall River	74,351	33	19	39.39	9.09	6.06	24.24	9.09
Cambridge	69,837	16	7	18.75	6.25	6.25	6.25	6.25
Lynn	55,684	14	5	21.42	14.28	7.14	14.28	—
Lawrence	44,559	19	7	15.78	—	10.32	—	5.26
Springfield	44,164	11	3	18.18	18.18	9.09	—	25.00
New Bedford	40,708	4	1	50.00	—	—	—	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,538	—	—	—	—	—	—	—
Salisbury	30,735	5	2	—	20.00	—	—	—
Chelsea	27,850	11	3	9.09	18.78	—	—	9.09
Haverhill	27,322	14	7	21.42	14.28	7.41	7.14	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	5	0	—	—	—	—	—
Newton	24,375	7	4	—	14.28	—	—	—
Malden	22,984	5	1	—	—	—	—	—
Fitchburg	22,007	4	1	25.00	—	25.00	—	—
Gloucester	21,262	2	2	—	25.00	—	—	—
Waltham	18,632	6	2	33.33	16.66	—	33.33	—
Pittsfield	17,252	3	0	—	25.00	—	—	—
Quincy	16,711	4	2	—	—	—	—	—
Northampton	14,961	—	—	—	—	—	—	—
Newburyport	13,914	2	0	—	—	—	—	—
Marlborough	13,728	2	0	—	—	—	—	—

Deaths reported 2,349; under five years of age 830: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 361, consumption 298, acute lung diseases 241, diphtheria and croup 128, diarrhoeal diseases 101, typhoid fever 59, whooping-cough 23, malarial fever 20, scarlet fever 15, menes 8, cerebro-spinal meningitis 6, erysipelas 1.

From whooping-cough, New York 10, Philadelphia 5, Brooklyn 3, St. Louis, Baltimore, Boston, New Orleans and New Bedford 1 each. From malarial fever, New Orleans 9, Brooklyn 5, Baltimore 3, New York, Philadelphia and Nashville 1 each. From scarlet fever, Brooklyn 5, Philadelphia 3, New York and St. Louis 2 each, Baltimore, Lowell and Springfield 1 each. From

measles, New York 5, Brooklyn 3. From cerebro-spinal meningitis, Washington 2, New York, Brooklyn, Baltimore and Haverhill 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending October 11th, the death-rate was 19.8. Deaths reported 3,688: diarrhoea 328, measles 92, diphtheria 61, scarlet fever 58, fever 51, whooping-cough 49.

The death-rates ranged from 12.4 in Derby to 32.9 in Blackpool, Bradford 25.6, Huddersfield 19.4, Hull 17.8, Leeds 22.9, Leicester 19.6, Liverpool 22.7, London 17.4, Manchester 29.0, Nottingham 17.7, Sheffield 21.1, Sunderland 22.9. In Edinburgh 17.3, Glasgow 19.2, Dublin 19.5.

The meteorological record for the week ending Oct. 25, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Saturday, Oct. 25, 1890.														
Sunday... 19	29.66	53.0	56.0	50.0	94	90	92.0	E.	N.E.	16	O.	R.	0.32	
Monday... 20	29.71	43.0	46.0	41.0	92	82	87.0	N.	N.	14	12	R.	0.67	
Tuesday... 21	30.10	44.0	48.0	44.0	70	79	74.0	N.	E.	14	3	O.	C.	T.
Wednesday... 22	30.39	42.0	48.0	37.0	75	78	75.0	N.	E.	9	8	C.	O.	
Thursday... 23	30.28	43.0	49.0	38.0	84	79	82.0	N.	E.	6	2	O.	O.	
Friday... 24	29.82	44.0	49.0	45.0	86	100	93.0	N.E.	N.E.	42	34	R.	R.	1.10
Saturday... 25	29.73	43.0	46.0	41.0	92	85	89.0	N.	N.	16	10	O.	O.	0.04
Mean for Week.														

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 25, 1890, TO OCTOBER 31, 1890.

Leave of absence for one month, to take effect about the 31st instant, is granted First Lieutenant J. D. GLENNAN, assistant surgeon. S. O. 146, Par. 1, Department of Missouri, October 23, 1890.

Leave of absence for one month, with permission to apply for an extension of fifteen days, to take effect upon the arrival of Acting Assistant Surgeon A. P. FRICK, at Fort Marcy, is granted Surgeon STEPHENS C. GOWRERY, United States Army. S. O. 112, Par. 2, Department of Arizona, Los Angeles, Cal., October 23, 1890.

By direction of the Secretary of War, the following changes in the stations or officers of the medical department are ordered: First Lieutenant CHARLES E. WOODRUFF, assistant surgeon, is relieved from duty at Fort Gibson, Cal., and will report in person to the commanding officer, Fort Missoula, Mont., for duty at that post. Lieutenant CHARLES E. WOODRUFF, assistant surgeon, Fort DeWitt, upon being so relieved, will report in person to the commanding officer, Fort Hancock, Tex., for duty at that post. S. O. 249, Par. 6, A. G. O., Washington, D. C., October 24, 1890.

By direction of the Secretary of War, the leave of absence granted Captain CHARLES B. EWING, assistant surgeon, in Special Orders 131, September 22, 1890, Department of the Missouri, is extended fourteen days. S. O. 230, A. G. O., October 25, 1890.

Leave of absence for one month, on surgeon's certificate of disability, is granted Captain GUY L. EDIX, assistant surgeon, United States Army, Fort Douglas, Utah. S. O. 80, Headquarters Department of the Platte, Omaha, Neb., October 31, 1890.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM OCTOBER 6, 1890, TO OCTOBER 25, 1890.

HUTTON, W. H. H., surgeon. Detail as chairman, Board of Examiners, revoked; ordered to Washington, D. C., for temporary duty. October 14, 1890.

WYMAN, WALTER, surgeon. To inspect quarantine stations. October 14, 1890.

LONG, W. H., surgeon. Detailed as chairman, Board of Examiners. October 14, 1890.

SAUTELLE, H. W., surgeon. Granted leave of absence for five days. October 13, 1890.

GASSAWAY, J. M., surgeon. Granted leave of absence for thirty days. October 11, 1890.

IRWIN, FAIRFAX, surgeon. Detailed as recorder, Board of Examiners. October 14, 1890.

AMES, R. P. M., passed assistant surgeon. Granted leave of absence for thirty days. October 14, 1890.

WHITE, J. H., passed assistant surgeon. Granted leave of absence for thirty days. October 24, 1890.

PETTUS, W. J., passed assistant surgeon. To proceed to Vineyard Haven, Mass., for temporary duty. October 9, 1890.

PERRY, T. B., assistant surgeon. Ordered to examination for promotion. October 9, 1890.

KINYOUN, J. J., assistant surgeon. Ordered to examination for promotion. October 10, 1890.

CONDICT, A. W., assistant surgeon. To proceed to Baltimore, Md., for temporary duty. October 18, 1890.

RESIGNATION.

AMES, R. P. M., passed assistant surgeon. Resignation accepted by the President, to take effect November 15, 1890. October 14, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 1, 1890.

F. B. STEPHENSON, surgeon, detached from Receiving-ship "Wabash," and wait orders.

H. M. MARTIN, surgeon, ordered to the Receiving-ship "Wabash."

LEWIS H. STONE, assistant surgeon, ordered to the U. S. S. "Pinta."

WILLIAM F. ARNOLD, assistant surgeon, detached from the U. S. S. "Pinta," and granted two months' leave.

THOMAS OWENS, surgeon, detached from the Coast Survey Steamer "Blake," and wait orders.

N. J. BLACKWOOD, assistant surgeon, ordered to the Receiving-ship "Vermont."

E. S. BOGERT, assistant surgeon, detached from the U. S. S. Receiving-ship "Vermont," and to the Coast Survey Steamer "Blake."

A. M. MOORE, surgeon, detached from the U. S. S. "Kearsarge," and to the Naval Hospital, Mare Island, Cal.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, November 18, 1890, at the Medical Library, 19 Boylston Place, at 8 o'clock P.M.

Readers: Dr. F. C. Shattuck, "A Case of Hydatids of the Liver"; Dr. S. J. Mixter, "Further Remarks on Permanent Tubage of the Oesophagus." G. G. SEARS, M.D., Secretary.

AMERICAN ACADEMY OF MEDICINE.—The annual meeting will be held at Philadelphia, Wednesday and Thursday, December 3 and 4, 1890. RICHARD J. DUNGLISON, Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON.—There will be a meeting of this Society at 19 Boylston Place, on Thursday, November 13th, at 4 o'clock.

Paper: "Intra-uterine Diseases, their Diagnosis and Treatment," by Frank L. Burt, M.D. S. N. NELSON, Secretary.

OBITUARY. JUBAL CONVERSE GLEASON, M.D., M.M.S.S.

Dr. J. C. Gleason, died in Rockland, Saturday, November 1st. He was born in Hinghamton, November 7, 1818, and graduated at Andover in 1838. He practised medicine at the Berkley Medical College and at the Harvard Medical School in the class of 1867. After practising a short time in Gilberville, he removed to Rockland, where he remained for the rest of his life. In 1877 he was appointed medical examiner of the second Plymouth district, and continued in that position until his death. He was in the Massachusetts House in 1870 and 1882. In 1887, 1888 and 1889, he was a member of the Senate from the first Plymouth district. He was a Fellow of the Massachusetts Medical Society and one of its Councillors. He leaves a widow and one daughter.

Original Articles.**CASES IN WHICH THE DISEASE INDICATED BY THE SYMPTOMS WAS NOT FOUND ON POST-MORTEM EXAMINATION. WHY DOCTORS MAY BE NON-COMMITAL SOMETIMES.¹**

BY BENJAMIN E. COTTING, M.D., M.M.S.N., OF BOSTON, MASS.

CASE I. In the winter of 1884-85 a hard-working and industrious blacksmith, aged sixty-three years, consulted me for a difficulty in swallowing his food, or rather a difficulty of getting his food into his stomach after he had swallowed it. This had come on very gradually, until at the time of the consultation, he had almost abandoned solid food and was then living on liquids, or at best, on semi-solids occasionally. The food swallowed appeared to be arrested at about the lower third of the oesophagus, where it remained until most of it was rejected by retching and other similar efforts. Only a small portion, even of liquids, seemed to reach the stomach. The patient had lost much flesh and was greatly enfeebled. On examination nothing could be felt abnormal on the outside. A probang of one-half inch diameter was arrested at about the lower third of the oesophagus and could not be passed. An olive-shaped ivory probang of three-eighths of an inch in diameter by careful manipulation could be made to pass the place of the obstruction. The passing of this smaller instrument seemed to dilate the parts, and to allow the passage of food more readily for a few days. The operation required to be repeated every week or so for some time following, but by the end of spring the passing of the instrument became more and more difficult, and a large sized elastic catheter only could be passed. Through this, milk and other nutritive fluids were carried into the stomach, but to a limited amount only. Later, a good sized tube, tapering to a point and ending in a very small olive-shaped bulb, could be worked by patient manipulation through the obstruction to the stomach. Through this, by means of a funnel, considerable nutriment was, from time to time, administered.

Meanwhile, the patient became more and more emaciated and enfeebled. He had abandoned work and could walk about with great difficulty only. Another physician assisted me in the care of him and he occasionally saw other medical men.

During my summer vacational absence he consulted a prominent surgeon, an attendant of the Boston City Hospital, who, after a careful examination, told the patient that he had a cancerous stricture of the food passage, and gave him no encouragement as to his future. The patient was dreadfully agitated at the terrible name given to his disease, and at once perceptibly broke down in hope and strength. He, however, mustered up courage enough to apply to the Massachusetts General Hospital, where he was examined by several attendants who gave him, in general terms, the same diagnosis without using the terrific word which had so crushed him.

On my return, late in the autumn, I found him in a deplorable condition, with hope and strength gone, and extremely emaciated. To gratify friends and himself, I caused him to be taken to the office of one of the surgeons of the Massachusetts General Hospital who, the

patient thought in his visit there, had, in his kindness of heart, somewhat encouraged and cheered him. A letter from this surgeon to myself now before me, dated November 18, 1885, says — "Thanks for sending in the stricture of the oesophagus which has certainly contracted since I examined him last."

The object of introducing the foregoing quotation, is, to show that there was no doubt about the diagnosis in this surgeon's mind, as there had never been, so far as I know, in the minds of any of the other medical men who had examined the case. The patient lingered along, starving to death in spite of all efforts to sustain him, and died in the way usual in such cases accompanied with malignant disease.

If there ever was a case of stricture of the oesophagus capable of demonstration during life, surely this seemed to be one. The evidence was complete and not to be mistaken by any medical man. And yet there was no stricture; there was no cancer of the part; the oesophagus was normal throughout, and without a particle of disease.

On post-mortem examination, the oesophagus was found unharmed, and as above described. The cardiac and pyloric orifices were free from disease, as also the rest of the stomach, except midway along the larger curvature. At this place there was a mass of three large diagonals of cancer two to three inches long, lying diagonally across the median line. No other part of the body was found diseased.

CASE II. In the spring of 1870, a gentleman, aged fifty-five years, came into my neighborhood to pass the last days of his life, which was rapidly terminating in the last stages of reputed cancerous disease, at or near the pylorus. He had the usual symptoms of this disease and in his travels about the country had consulted various physicians who all were understood to have given such a diagnosis. The pain and the distress after taking food, and the subsequent rejection by vomiting somewhat later; the gradual emaciation and debility as well as the peculiar aspect of the skin and expression, were all present. And further, a well-marked tumefaction over the region of the pyloric orifice, with an apparent mass there, tender on manipulation, gave previous examiners little or no doubt concerning the nature of the malady.

As I had been called in merely to assist in soothing the last hours of this patient, I naturally wished to save him the discomfort of any unnecessary explorations. I, however, made examinations sufficient to convince me of the high probability of the diagnosis which had been communicated to me on my assuming charge of the case.

On the death of this patient a few weeks later, a post-mortem examination was made, by a thoroughly skilled expert in such matters, and, not only was there not found cancer or any other disease in the stomach, but a most minute and thorough examination gave no evidence whatever of anything morbid in the body, or indication of what had destroyed life in this instance.

CASE III. A gentlewoman, about seventy, a stout and well sustained person, lost her appetite without any known reason therefor. For this ailment she took at her own instance a proprietary medicine containing chiefly, so far as known, a "warming stimulant in ginger syrup"; this "warming stimulant" being apparently, besides the ginger, capsicum and alcohol. The number of bottles of this preparation, which this

¹ Read before the Norfolk District Medical Society, October 28, 1890.

good woman took in the course of a few weeks, was past belief, it amounted to many dozens. When at last the stomach rejected the "remedy" as well as everything else, I was asked to restore it to health. As I failed to do this satisfactorily, the aid of other medical men was sought for in consultation or otherwise. Most of the examiners thought that the digestive powers of the stomach had been irretrievably ruined by the preparation that had been so freely taken by the patient. Malignant disease was thought not impossible; and ulcer of the stomach was also suggested. One physician, however, stoutly maintained that the malady was a cancer of the pylorus; and was quite disgusted that the others could not fully agree with him. His array of facts and symptoms was certainly very formidable on paper, and his arguments based upon them were very strong, and almost complete. Still the history of the case, and especially its pre-professional treatment, caused others to hesitate. All agreed, however, that the end was necessarily fatal.

Owing to this difference of opinion, a post-mortem was looked forward to with considerable interest. It was made by an expert who did his work thoroughly and well. The stomach was large and flabby, but was not diseased. The mucous membrane was unbroken and hardly a spot could be found that gave any evidence whatever that there had been irritation there much less inflammation. All the other organs were in normal condition.

The immediate cause of the narration of the foregoing cases was the chance finding of the letter quoted and about the same time the accidental overhearing of an indignant damsel's remark that she "didn't see why doctors need be so non-committal ; there's no getting a positive opinion out of any of them." True enough, perhaps, for the difficulties attendant upon the making of a correct diagnosis seem to be incomprehensible to all outside of the medical profession. The public appear to think that a medical man should at once diagnose a case at "ten paces," and without touching the patient — sometimes he can do this but not often. Generally, even common cases require most careful investigation, and serious study. Nothing could have seemed clearer to the examiners than Case I above related. The probang was arrested at once by a seemingly solid obstacle, which never abated for an instant through the long progress of the disease. The apparent stricture became more and more confirmed as the case went on until the closure was nearly or quite complete. That it was cancerous seemed evident from the general condition of the patient, and from the fact that strictures of the esophagus are seldom, if ever, non-malignant. What gave rise to these deceptive symptoms, so constant and unrelenting, is more than we can fathom; and their unreality may now serve to restrain a too positive opinion in similar circumstances.

In Case II the symptoms were less tangible, but sufficiently perceptible to warrant the conclusions arrived at by the medical examiners ; and yet no results attributable to the disease indicated could be found after death.

Case III seemed to have sufficient cause for fatality, though the specific ailment admitted of more doubt than in the other cases, and no one of the attendants was fully correct in his diagnosis. In fact, the

autopsy gave no definite solution in this regard, nor can it help to positiveness in any subsequent similar case.

In view of such instances, and there are enough such for frequent reminders, it is not to be wondered at that medical men hesitate — especially if they are well posted in the vagaries of disease.

But why marvel at their reluctance to commit themselves when indications are often so misleading; for after all, other men in less difficult calling are not less non-committal even without apparent reason. If State officials when announcing the result of an election say of a candidate who has received nine-tenths of the ballots that "*he appears to be elected*," why may not a medical man when nine-tenths of the symptoms point in a certain direction, say that the patient *appears* to have the disease thus indicated. And if he so qualifies his opinions, should he not be commended rather than blamed therefor ?

COCAINE ANALGESIA; ITS EXTENDED APPLICATION IN GENERAL SURGERY, WHEN HYPODERMICALLY EMPLOYED.

BY THOMAS H. MANLEY, M.D., NEW YORK.

SINCE Dr. Karl Koller first demonstrated to the medical world, the therapeutic properties of cocaine, experimenters and physiologists have been occupied in endeavoring to discover the *modus operandi* of the drug. I find in scanning the latest literature on the subject, that authors proclaim the most discordant views, with reference to its physiological action, when administered internally or hypodermically.

One¹ says that it locally paralyzes the sensory nerves ; another,² that the paralysis or loss of sensation is secondary to an impression on the vaso-motor nerves, which, by their inhibitory action, cause stagnation in the blood-vessels interfering with the nutrition and sensibility of the sensory nerve-filaments ; while Paul Bert³ asserts, that the drug, when used hypodermically, its effects only extend as far as the tissues in which it comes directly in contact. According to Von Ploss,⁴ in order to cause death, enormous doses of the alkaloid would be required. As an instance, in confirmation of this assertion, he cites the case of a druggist who took twenty-two grains with suicidal intent. Shortly after swallowing the dose he went to sleep, but shortly awoke, with a violent headache ; which, however, in a few hours passed away, and he felt no inconvenience whatever.

On the present occasion I am concerned only with the local action of the analgesic, when injected into the tissues in solutions of various strength ; and, strange to say, I can find no American nor English contributor, who has written any systematic or extended articles on the uses of cocaine when injected into the tissues. This would seem to indicate, that as yet, very many regard the propriety of administering it hypodermically, in surgical operations, as of doubtful expediency, if even permissible, at all. This must arise either from an unreasonable prejudice, want of observation in its application, or an unpleasant experience with its administration.

¹ Wood's Therapeutics, vol i, p. 217.

² Lauder Brunton: Therapeutics.

³ Wood's Handbook of the Medical Sciences, vol. vii, p. 260.

⁴ Die Pflanzen Stoffe, p. 107.

All admit its wonderful power in the surgery of the eye and the nose and throat, in fact, in any part lined by mucous membrane; but, when we come to the great serous cavities; the muscular, vascular and cellular tissues, there is a portentous silence, which would seem to imply, that here, at least, it can serve no useful purpose.

I am convinced after an extended observation that this alkaloid ranks second to none, in safety and in general application, except in those surgical cases in which considerable time is consumed in operating. With my first trial of it, I was disappointed and disgusted, so that for more than three years after I wholly abandoned its use, and listened with incredulity when I heard any one speak of its value, as an analgesic, in hypodermic dosage.

The first case I tried it on was in Ninety-ninth Street Hospital, in the winter of 1886. My patient had had his leg so crushed, by a railroad accident, that I had to amputate close to the knee joint. In my desire to economize tissue, I found when the integuments closed over the stump, that there was scarcely enough to provide proper protection to it; hence, I decided to resect the exposed end of the tibia and spread the flaps over it.

As my patient was loath to take ether again, I advised the hypodermic administration of cocaine, which I assured him would so benumb sensation that no suffering would be felt. He groaned terribly when the hypodermic needle was introduced, so that it required three assistants to hold him. At last having emptied three syringefuls (thirty drops in each) of a four-percent solution, or nearly four grains, I took up the scalpel and made a free, oval incision along the outline of the stump, thereby dividing several of the surface veins, which were gorged with blood by the pressure of the elastic-band. He now became utterly unmanageable, and for a time his screams could be heard over considerable distance; and, to add to our dismay, he reeled over in a faint, became nearly pulseless, cold and deathly pale. After perhaps, twenty minutes, reaction set in, and in a short time, he was feeling better again. We postponed further operations till the next day, when under ether, we completed our resection of the stump. I need hardly say, that with this experience my enthusiasm for cocaine had faded out, and I felt earnestly thankful that a life was not lost through our experiment; for, I was thoroughly frightened.

It was not until last May, after having read the classical *brochure* of the distinguished French surgeon, Paul Réclus,⁴ on cocaine, that I again resorted to it in surgical operations.

Réclus's article throws a flood of light on the question. He reports seven hundred operations performed with the hypodermic injection of cocaine; among them colotomy (iliac), gastrotomy, nephrotomy, operation for typhilitis, lithotomy, perineal and suprapubic urethrotomy; for fistula in ano; cholecystotomy; for necrosis, minor amputations, hernia, reducible and strangulated; besides, plastic operations, and many others of a minor character. He claims to have made a searching examination into the literature of the subject and can learn from German, English and French sources, of but one death, which could be clearly attributed to the lethal action of the alkaloid.

He attaches great importance to the quality and freshness of the drug; and claims that many accidents,

immediate and remote, are attributable to the adulterated article, or else to stale, septic solutions. His most marvellous successes have been in anthrotomies, in tubercular disease; wherein he cocainizes the integuments, opens the joint, injects his cocaine solution, and then thoroughly drenches the articulation with a solution of mercuric-chloride or thymol.

Inflammation, he says, is no contra-indication, as it will act equally well then, as at other times, and that the engorged vessels manifest a marked diminution in volume, after its injection. In bone operations we are warned to be certain that the analgesic be deposited within the periosteum, if we would succeed.

Much importance is attached to dosage; small quantities, from ten to twelve centigrammes (from one-third of a grain to two grains) in a one per cent. solution is the maximum for each operation. The operator is directed to use a syringe with a long, very fine needle. The field of operation is to be divided by a quadrangle; along each lateral outline, the needle is to be introduced its whole length. Now, we are directed to do two things simultaneously; and to this, much importance is attached; namely, as we commence to send the piston home, we begin to withdraw the needle, timing both, so that the syringe will be drained before the needle's tip emerges from under the skin.

By sending the needle in four times, in rapid succession, and spraying the tissues, according to the plan directed, we not only paralyze a large district, but we also are free from the accidental injection of a lethal dose into a blood-vessel; for should the point of the needle enter the lumen of a vessel, as we commence its withdrawal, at the instant that the solution commences to escape, but very little will enter the vessel, and the danger is obviated of injecting considerable quantity into it.

We are told, by the same author, of its priceless value where the patient has a deep-rooted fear of ether or chloroform; when there is a weak heart, kidney disease or bronchitis; when no assistant is at hand, to give the anesthetic, as with the isolated country practitioner, or when there are no means to compensate an assistant.

After having studied M. Réclus's contribution, which reads more like a romance than a reality, I decided to test the truthfulness and value of his assertions, as soon as I resumed service in the Harlem Hospital, and cases came under my care in which I felt it would be policy to use cocaine hypodermically. It is scarcely necessary to go over in detail each separate case; but I may say that I have used it, in and out of hospital, more than fifty times since, without the slightest accident, or inconvenience, or mishap. There were three herniotomies (two of which were strangulated; one in a woman; all making splendid recoveries); one opening and draining of a hydronephrotic cyst; four fistulas in ano; two pleurotomies for empyema; one suprapubic incision into the bladder; one case of operation for cancer of the lower lip; one urethrotomy; one laparotomy for serous cysts in the broad ligament; one case of gun-shot wound of the thorax, for resection of fragments of shattered ribs; four lithotomies (perineal, and for enucleation); three of mucoid and lipomatous tumors; with some thirty or more minor operations on ambulant cases.

In my hospital service, the use of general anesthetics is now practically discarded, except in those cases requiring much time, and in capital amputation: s.

⁴ Cocaine-Anesthesia; Le Mardi Medico, Mai 12, 1890.

MANNER OF PREPARING PATIENT AND ADMINISTERING THE COCAINE SOLUTION.

After the part is scrubbed and is rendered thoroughly antiseptic, the patient is placed in a prone position, if possible, the face covered lightly by some light fabric, so as to completely close off the field of operation from vision. This is highly important, for with nervous, sensitive patients, the sight of instruments or the presence of blood will immediately induce syncope.

When I am operating on a limb, I apply the elastic constrictor, according to Dr. Corning's plan, before injecting. In other situations, after I have sprayed the deep tissues, with each injection I seize the underlying parts and knead them with the finger and thumb. In those patients who have very fine, thin, sensitive skins, before I puncture the parts with the hypodermic needle, I douche the surface with a syphon of ice-cold Vichy, which so benumbs the integuments, that the needle is not felt, nor is the cutting edge of the scalpel. I commence to operate almost immediately, after my field for operation has been sprinkled at such depth as may be required.

The rule so far has been that my patients have lain so quietly, that one seeing me operate, and not seeing the patient's head, would suppose him profoundly anesthetized; while, as a matter of fact, not a single faculty has been disturbed. From six to twelve centigrammes will so paralyze the reflexes that the effect is positive for fully a half hour or more.

Cocaine analgesia very greatly simplifies an operation. No force or violence is necessary to restrain the patient; and as Récluz well says, one of the most important and useful of all assistants is the patient himself, shifting and moving in any direction required. It reduces the number of assistants fully half, which is an item to an impecunious patient. As a matter of expense, in itself the cocaine is ten times less expensive than ether. In operating at night, we are not in constant danger of being incinerated, and we can carry enough of the hydrochlorate in our vest-pocket, without inconvenience, to do a dozen operations. It will be observed in surgical operations, which entail cutting, that the culminating action of the drug is interrupted or prevented by the escape of more or less of the solution along the line of the incision.

To attain the best results, the directions of Récluz must be carefully observed, especially with reference to the manner of introducing the needle and circumscribing the zone to be invaded.

DANGEROUS COMPLICATIONS OR SEQUELÆ ATTENDANT ON THE HYPODERMIC USE OF COCAINE.

Many well-known operators have acquired a violent dislike for the hypodermic use of cocaine, because some time in their practice it gave them a fright; hence, their imprecations against it in any form. They allege that it has given rise to such alarming symptoms, that they have come to regard it as a potent agent for harm; besides, not infrequently when one is able to go through the operation without much resistance, yet they suffer from vertigo and bodily weakness to such an extent as to require several hours rest before they are quite themselves again.

I have investigated many of these allegations, and find that the complaints mainly come from those who use the drug too timidly or injudiciously. With women, we will surely come to grief unless we exercise great

caution; for it has been observed with young girls and hysterical individuals to act with extraordinary energy on the nerve-centres, and may give rise to considerable temporary excitement. Hence, we resort to deception with these cases, for, if we do not, the effects of the imagination will more than counteract the good of the alkaloid. We must assure them that the operation will not be painful, and gain their confidence. If it can be avoided, they should not be permitted to see the instruments or know precisely when the regular steps of the operation are to begin.

The hypodermic injection of the solution may be made a very painful procedure, in itself, in the hands of one awkward or inexperienced; so that the patient determinedly abandons any further manipulation. Accordingly, under these circumstances, it is well to first benumb the integuments with an ether spray, or, what is better, by the douche of a syphon of ice-cold Vichy, before we introduce the needle. We should not inject more than from six to ten centigrammes in a woman, and see to it that every possible provision has been arranged, so that almost at once, and before the drug has been absorbed by the circulation, make the primary incision into the cocainized area; for it acts with nearly instantaneous celerity when injected into the cellular membrane; and, besides, the free incision permits of the draining off, with the blood and secretions, of any redundancy which might accumulate.

With those patients who become boisterous, and go into collapse, I was confident that, in the majority of cases, it comes of fright and painful anticipation; and not from the medicine. Every one knows how keenly alive certain individuals are to mental impressions: in this instance, to the array of instruments, basins, lotions, dressings, and to the elaborate preparations to forestall haemorrhage, etc., the very sight of which may, indeed, test the courage of the stoutest. The patient takes the chair in almost a state of syncope. The condition of the patient is not wholly free from contagion, if we are not prepared for it; and hence the operator's hand becomes unsteady. The needle is sent in; to the patient the supreme moment has arrived, and over he goes onto the floor. The rolling eyes and ghastly pallor strike terror into the hearts of the friends; and the "injected poison" (?) comes in, for their fiercest denunciation, when, as a matter of fact, it probably was in no way concerned whatever in the phenomena. Herein comes an explanation. With cocaine anaesthesia the psychical faculties are intact; hence syncope, fluttering pulse and alarming symptoms. I have observed in every one of my patients who were profoundly sceptical of the powers of the analgesic, that during the momentary interval elapsing between the injection of the solution and the incision, they become deathly pale; their breathing was rapid and shallow; and their pulse nearly uncountable; but after the edge of the scalpel entered the deep parts, and they were convinced that no pain was to be borne, those symptoms passed off, as if by magic.

CONCLUSIONS.

In presenting this summary of my experience and my views, I have drawn freely from the invaluable brochure of Récluz, to which I had to turn almost exclusively for information as to the use of cocaine in general surgery. I am particularly gratified to be able to verify, in every particular, the fidelity

and accuracy of every line in his scholarly and elaborate article.

That cocaine analgesia is one of the greatest boons ever conferred on humanity, is undeniable. There is scarcely a limit to its application; the great difficulty being to understand how it shall be administered, the conditions under which it must be proscribed, and to be on the alert for those indications in operations which warn us of its toxic properties.

How many lives are annually cut short by chloroform and ether! Even though our patients usually react well from general anesthesia, can any one question but that this saturation of the system with a pungent, volatile liquid, must work havoc with the histological elements of the glands, their secreting and tubular structure? Many times, indeed, the patient has to face two dangers; the anesthesia and the operation. I have had two patients die, promptly after division of the constriction in strangulated hernia, under ether anesthesia. I have cut two others who were in a state of collapse when the cocaine solution was injected; but they both made excellent recoveries. Hence any agent which causes a local numbing of the parts without compromising the system must be accepted with unfeigned delight and welcome.

We cannot yet assign to cocaine definitely, the position which it should occupy in surgery. Not until it has been more generally employed, and a summary can be drawn up which will cover a great many cases, treated under divers circumstances at different stages of life, is this possible. With a view of hastening this consummation, and recommending the subcutaneous injection of this invaluable alkaloid in general surgery, this rather desultory monograph is offered.

REPORT ON THE RECENT PROGRESS OF ORTHOPEDIC SURGERY.¹

BY EDWARD H. BRADFORD, M.D., AND ROBERT W. LOVETT, M.D.

KNOCK-KNEE AND BOW-LEGS.

THE recent lectures of Pye² which deal with the rates of growth in healthy and rachitic children deserve more extended notice than can be given to them here. By the use of Bowditch's tables and by further observation of his own, he formulated the normal rates of growth in normal children, and by comparison with a large number of rachitic children of the same age, he found that in the latter the rate of growth was retarded during the activity of the disease. Inasmuch as growth is most rapid in the first year, and diminishes from that time onward, it follows that the earlier the disease appears the more marked is the arrest of growth. After the disease passes off the growth of the bones becomes nearly normal again, and upon this depends the tendency to the outgrowth of the deformity. Pye divides rickets into marasmic and non-marasmic varieties, and defines in detail these two classes.

Some investigations were made by Joel E. Goldthwait,³ in a series of cases operated on at the Boston Children's Hospital, as to the ultimate result of osteotomy and osteoclasis. Of twenty-eight cases (twelve of the former and fifteen of the latter operation) the legs were found to be straight and in excellent position ex-

cept in one case of knock-knee, in which relapse had taken place. The cases operated on were on the average four years old, although some were as young as two years. In all cases at least a year and a half had elapsed after operation.

Dr. G. C. Davis,⁴ of Philadelphia, takes an extreme position in advocating the treatment of bow-legs by prolonged recumbency. With regard to ambulatory treatment he says, "If the case is a marked one it is only a waste of valuable time to put on braces and allow the child to continue walking." He would keep young children in bed with the legs bandaged together or with inside wooden splints, until the deformity is cured. Such a method is so little in accord with modern American methods that it deserves mention, and the comment that the experience of Dr. Davis with regard to ambulatory treatment is widely different from that of other American surgeons.

Dr. Humphrey⁵ lays particular stress upon restricted ossification at the epiphyseal lines as the cause of knock-knee and bow-legs. This he regards as due to the effect of undue pressure coming either upon the outer or inner condyles of the femur in children with rickets where the processes of ossification are abnormal and easily disturbed.

A series of one hundred cases of osteotomy is reported by Haggard without any mishap or difficulty. Thirty-two cases were simple bow-legs and forty-five simple knock-knee, the latter being operated on by Reeves's method. In ten other cases cuneiform osteotomy was rendered necessary by extreme curvature of the tibia.⁶ Antisepsis was most carefully followed out.

From 1879 to 1889 there were treated at the Poly-clinic of the Rigs Hospital in Christians⁷, 1,953 cases of rickets, among whom were seen fifty-seven cases of knock-knee (2.9%). This deformity was most common at the age when children begin to walk. An attempt was made to connect the deformity by the arm on which the child is carried by the mother during the nursing period.

INFANTILE AND CEREBRAL PARALYSIS.

Karewski⁸ contributes a paper on the advantage of performing arthrodesis (scraping out the joint) on joints affected by severe infantile paralysis. He advocates it especially in the shoulder, knee and ankle joints. A French article by Deschamps,⁹ deals also with the surgical treatment.

Stephen Smith¹⁰ advocates excision of the knee-joint as a remedy for the "dangle leg" resulting from infantile paralysis and reports an illustrative case.

In a very admirable paper contributed by Dr. Ashby¹¹ to the British Medical Association, he considers the pathology of the forms of paralysis occurring in the first two years of life (including spinal and cerebral forms). The classification of causes which he makes is as follows: (1) intra-uterine lesions (meningo-encephalitis); (2) meningeal hemorrhage; (3) syphilitic arteritis and softening; (4) acute cerebral parapysis; (5) acute spinal paralysis; (6) peripheral paralysis. A similar article is contributed by Dauchez.¹²

¹ Concluded from page 441 of the Journal.

² Lancet, July 26, 1890, et seq.

³ Boston Medical and Surgical Journal, October 3, 1889.

⁴ Universal Medical Magazine, March, 1890.

⁵ Med. Chir. Trans., lxxii, p. 165.

⁶ Lancet, June 14, 1890, p. 1297.

⁷ Schoenbergs: Norsk Magazin for Lægevidenskaben, May, 1889.

⁸ Deutsche Med. Wochenschrift, 1890, No. 1.

⁹ Archiv für Kinderheilkunde, 1890, No. 1.

¹⁰ New York Medical Record, April 26, 1890, 367.

¹¹ British Medical Journal, February 8, 1890, p. 281.

¹² Rev. Mens. d. Mal. de l'Enfance, 1889, vii, 289.

The most important contributions to the pathology and clinical history of the affection are those of Osler⁴⁴ and Sachs and Petersen⁴⁵ which are too extensive for review here.

TREATMENT OF TALIPES CALCANEUS PARALYTICUS.

Gibney⁴⁶ reports 28 cases of operative treatment by Willett's method. Seventeen gave good results; eight gave fair results; three poor results. In the latter the resulting cicatrix had stretched and the deformity had recurred.

The method used consisted of a large Y-shaped incision over the posterior aspect of the leg, at the lower fourth the end of the incision being at the os calcis, the vertical incision being about one and one-half inches long, the incision exposing the sheath of the tendon. The tendon is divided obliquely and the ends sown together. Willett advises section of portion of the tendon. Gibney sews the ends together by lapping them, making, as it were, a splice. Dr. Gibney prefers catgut to wire for sutures.

Dr. Judson prefers the mechanical treatment, thinking that the appliance which is adjusted for these cases gives a firmer means of locomotion than that offered by the operation.

Dr. H. L. Taylor reports the result of the mechanical treatment as fairly satisfactory.

ARTHRODESIS FOR PARALYTIC TALIPES.

Defontaine⁴⁷ reports, what is termed, arthrodesis, that is, cartilaginous resection; a method introduced by Albert in two cases of paralytic club-foot. The method he employs is exposure of the tibio-tarsal articulation and section of the cartilaginous surface of the tibia and of the astragalus by means of an osteotome or scissors, then the peroneal tendons can be divided and resutured or spliced.

The results reported appear to be satisfactory.

TORTICOLLIS.

An interesting case of congenital torticollis was observed by Meinhard Schmidt,⁴⁸ where the asymmetry of the face and head was clearly primary and not the result of the deformity, at the end of seven months the deformity had entirely disappeared without more active treatment than daily attempts at repositional.

Sarlet⁴⁹ reported a case of torticollis due to late syphilis in a girl seventeen years old, which was improved by specific treatment.

At a meeting of the Société de Chirurgie held last summer,⁵⁰ the question of the operative treatment of torticollis was fully discussed. While the weight of opinion seemed to favor the division of the muscle by open incision, certain surgeons (Berger and Jalaguier) held to the subcutaneous tenotomy, arguing that it was safe if done far enough above the clavicle and that the scar after open incision was often disfiguring. Verneuil, Kirmisson and Championniere, were in favor of open incision, especially in extensive cases.

Articles dealing with this question have also been written by Rédard⁵¹ and Ducurtil.⁵² Two cases have

been reported⁵³ where the deformity seemed due to defective eyesight.

A simple and apparently efficient apparatus for the retention of corrected cases of torticollis in the right position is described by Braatz.⁵⁴

FLAT-FOOT.

In writing of flat-foot, Kirmisson⁵⁵ discusses the etiology and gives an account of the methods of mechanical treatment with a detailed account of the various operations for the relief of the most obstinate cases.

Trendelenburg,⁵⁶ in severe cases of flat-foot, has done supra-malleolar osteotomy and has found it very satisfactory in correcting the deformity. The operations (four in number) were all performed upon adults.

Among operative measures, removal of the scaphoid is advocated by Davy⁵⁷ in confirmed and irreducible cases and Golding Bird,⁵⁸ on the other side, deprecates operative interference in any but the very worst cases and in very few of those, and thinks that when operative measures are undertaken there should be removed a fairly extensive wedge of bone.

Hare⁵⁹ recommends osteotomy of the astragalus and scaphoid, "mortising" the astragalus and scaphoid together on the inner side of the foot by careful chiseling.

Whitman,⁶⁰ in an extended experience has found the use of a steel sole plate carefully shaped on the cast of a corrected foot sufficient in a majority of cases, in some of the severer cases he has used rectification under an anesthetic necessary preceding the use of the plates.

Dr. Young⁶¹ gives a review of the varieties and etiology of flat-foot and advocates its treatment by the elevation of the arch by Robert's spring.

Gibney⁶² calls attention to the occasional co-existence of flat-foot and ingrowing toe-nail and relates cases where the painful symptoms were relieved by the radical cure of the ingrowing nail.

CLUB-FOOT.

Rédard⁶³ describes an appliance for correcting club-foot forcibly. It consists of a plate with arrangements to hold the tarsus firmly by means of screw-pressure. The front of the foot is moved by means of a lever, which rests against the side of the foot, and is attached to a plate which controls the sole. The apparatus is an improvement on that of Morton,⁶⁴ of Philadelphia, who has found his not sufficiently reliable, and prefers resection of the astragalus.

Shaffer⁶⁵ has devised an elaborate and efficient appliance for correction of club-foot by gradual stretching. He has found that the amount of pain is not greater than can be borne without an anesthetic, and in many instances, by daily application for a short time of this appliance, he has succeeded in correcting resistant talipes equino-varus without tenotomy.

Kirmisson, of Paris, warmly advocates Phelps' open incision in resistant club-foot.

⁴⁴ Osler: *The cerebral palsies of children*, Philadelphia, 1880.

⁴⁵ Sachs and Petersen: *Journal of Nervous and Mental Diseases*, New York, 1890, xvii, 295.

⁴⁶ New York Medical Journal, March 1, 1890, p. 246.

⁴⁷ Gazette des Hôpitaux, June 8, 1889, p. 597.

⁴⁸ Coint, F. Chir., July 26, 1890.

⁴⁹ Le Scalpel de Liège, July 6, 1890.

⁵⁰ Soc. de Chir., Séance of June 25 and July 2, 1890.

⁵¹ Gaz. Med. de Paris, 1889, vi.

⁵² Thèse de Paris, No. 143, 1889.

⁵³ Transactions of the American Orthopedic Association, vol. i, ii.

⁵⁴ Archiv. für Klin. Chir., 1890, i, p. 49.

⁵⁵ Archiv. für Klin. Chir., 1890, p. 731.

⁵⁶ Lancet, April 6, 1889, p. 675.

⁵⁷ Lancet, April 6, 1889, p. 677.

⁵⁸ Lancet, November 9, 1889, p. 933.

⁵⁹ New York Medical Record, July 6, 1889, p. 10.

⁶⁰ Annals of Surgery, January, 1888, p. 41.

⁶¹ Revue de Chirurgie, 1889, p. 954.

⁶² Transactions of American Orthopedic Association, vol. , p. 31.

⁶³ Transactions of American Orthopedic Association, 1889, i, 33-37.

BONE-DRILLING NEAR INFLAMED JOINTS.

Noble Smith⁶⁶ calls attention to the advantage of bone-drilling in the neighborhood of inflamed joints in cases of acute and painful joint inflammations, and relates three cases where much benefit followed the procedure. Not only in hip disease and similar inflammations has he seen benefit from it, but in cases of painful Pott's disease he has relieved spinal sensitiveness by drilling into the apices of the spinous processes.

FIXATION AND ANCHYLOSIS.

Phelps⁶⁷ has carried out some experiments in the prolonged fixation of the joints of dogs, which go to show that such fixation does not produce ankylosis. Drawings of the joints accompany the paper, and the work has been most carefully done.

ACUTE ARTHRITIS OF INFANTS.

W. R. Townsend,⁶⁸ in a consideration of the acute arthritis of infants, relates 19 personal cases, and has collected 53 other cases from literature. His conclusions are that it occurs most during the first year of life, and that it is pyemic in character. Fifty per cent. of the cases are fatal, and commonly the disease runs a rapid and destructive course. It occurs most often in the hip, knee and shoulder, and the proper treatment is early incision.

HEREDITY IN BONE TUBERCULOSIS.

Dollinger⁶⁹ concludes from a study of 250 patients affected with bone tuberculosis that tuberculosis of bone, as such, is not often inherited, but that it is most likely to occur in the descendants of persons with tuberculosis of the lungs.

HAMMER TOE.

Haslam⁷⁰ reports the dissection of a hammer toe, in which the second phalanx was flexed on the first, the third being parallel to the second. The toe could be straightened with moderate force, but sprang back with a click or "trigger action." The tendons were found normal — the lateral ligaments were thickened and resisted extension — division of one of them permitted extension.

HALLUX VALGUS.

Fowler⁷¹ reports success in the operation of partial resection of the head of the metatarsus in hallux valgus. He advises in after-treatment a digitated stocking and a shoe with an inserted portion between the great toe and its neighbor.

— A youthful Esculapius, fresh from the Melbourne University, in Australia, established himself in one of the thriving centres of the cattle industry and was called in to attend an old lady suffering from tapeworm. He attended her with great success, and forwarded an account for 10s. 6d. which his patient thought exorbitant, and demanded to know the particulars. This is the reply she got: "For delivering you of a tapeworm ten and one-half feet long — at a shilling a foot, 10s. 6d."

⁶⁶ British Medical Journal, February 22, 1890, p. 416.

⁶⁷ Report of Intern, Faculty, University of New York, 1890.

⁶⁸ American Journal of Medical Science, January, 1890, p. 1.

⁶⁹ Cent. J. Chir., 1889, 35, p. 699.

⁷⁰ Lancet, May 25, 1890.

⁷¹ New York Medical Record, September 7, 1889, p. 263.

Clinical Department.

A CASE OF MULTIPLE NEURITIS DUE TO ARSENIC.⁷²

REPORTED BY E. G. CUTLER, M.D.,

Visiting Physician to the Massachusetts General Hospital.

The following case, sent in by Dr. Walton, entered the Massachusetts General Hospital under Dr. W. L. Richardson, and remained in his care for over three months till he was practically well. I am permitted, through the courtesy of Dr. Richardson, to report the case:

G. H. M., shoemaker, single, aged twenty-two, born and living in Natick, Mass., entered the Massachusetts General Hospital March 25, 1890, with the following history: Father and mother living, three brothers died in infancy. He had had no previous illness. There was no syphilis or alcoholic appearance or history. No evident exposure to lead or arsenic. He ascribed his trouble himself to the constant use of a treadle machine for stitching leather. About three weeks before entrance first noticed weakness of the right hand, with a feeling of numbness and prickling in the fingers. Within a few days a similar weakness of the left arm and hand and of both legs developed, and has increased slowly. Numbness, tingling, pins and needles sensation, with subjective feeling of coldness in the legs, have existed from the outset; and for ten days there has been general soreness of the arms and legs, with painful cramps of the calf muscles. No headache; no disturbance of vision; slight cough only for two or three days; appetite fair; no dyspepsia; no attacks of colic; bowels rather constipated; no urinary disturbance.

Patient was poorly nourished; the mental condition intelligent; pulse 104, regular and of fair strength. Pupils alike, and react to light and accommodation. No blue line on gums. The hand grasp was weak; the gait feeble and shuffling; the muscles of the limbs were wasted and flabby. No wrist-drop or toe-drop, but special weakness of extensors. Skin cold, circulation sluggish. Moderate tenderness of muscular masses of extremities and along nerve trunks. Sensation to touch seems everywhere normal. Knee-jerks absent. Superficial reflexes weakened. Heart, lungs and abdominal organs were negative. The urine was acid, of high color, 1022 specific gravity, no albumen, the sediment consisted of abundant urates only.

He was up and about the ward for a few days, complaining only of slight headache. Atrophy of the muscles markedly increased, and, finally, on the first of April, he was kept in bed. At this time he complained of headache and had occasional cramps in the calf muscles. The pain was moderate, and quickly relieved by small doses of phenacetin. Parasthesia in feet and hands became less marked and was not continuous. Tenderness remained the same.

April 5th, Professor E. S. Wood reported the presence of arsenic in the urine. Twenty grains of iodide of potassium was given three times a day, and he was sponged daily with salt water. The patient, who had been steadily at work for one year, said that he had to handle a dozen or more green paper labels attached to the shoes daily in his work, and he had the habit of putting these papers in his mouth. He also injured right

⁷² Read before the Boston Society for Medical Improvement, October 13, 1890.

hand, and had a sore in palm, lasting three or four weeks before entrance. Hand and tags remained wet most of time. Until the middle of April the atrophy and flaccidity of the muscles increased so that he was unable to move, though the tenderness and cramps diminished. He could move the hands a little, legs not at all. Weight one hundred and ten pounds. At the end of April the patient began to regain slight power in the leg muscles, though the feet and legs remained markedly cold at night. He was then rubbed with ice daily. The middle of May he was about the ward in a wheel chair, and steadily gaining in muscular power. The third week of May slight dorsal flexion of the feet was possible. On June 1st he began to go about on crutches; and by July, could walk with a stick. There was steady gain in weight and strength till he was discharged to the convalescent home on the 17th of July, able to walk about quite well, and go up one flight of stairs slowly, but unable to walk in the dark or where he could not see distinctly.

There was no reaction of degeneration when I first saw him, July 1st.

The patient was seen by me again within a few days. He looks quite well, and is strong enough to walk seven miles without fatigue. He can walk in the dark with as much freedom as ever. His weight is one hundred and twenty-eight pounds, which is the normal for him. There are occasional shooting pains in the muscles of the extremities; no paraesthesia; no tenderness anywhere. The cutaneous reflexes are normal. The patella reflex is just visible at times, not always.

At my request, the patient sent me two of the tags, which I pass round. Dr. C. P. Worcester, assistant in chemistry at the Harvard Medical School, kindly tested them for arsenic, and found a large quantity. I pass round the mirror which he obtained by using for his test the small fragment seen to have been cut from one corner of one tag.

CASES OF BERI-BERI OCCURRING IN THE PROVINCETOWN GRAND BANK FISHING FLEET.

BY W. S. BIRGE, M.D., PROVINCETOWN, MASS.

In the fall of 1889, when the fishing fleet from the Grand Banks arrived home, I was called upon to attend seven cases, coming from two different vessels, a description of which may prove of interest from the rarity of the disease originating as far north in this quarter of the globe as did these cases.

The prominent symptoms in each case were general oedema, shortness of breath with precordial distress, numbness of the lower extremities with a peculiar shuffling gait, showing marked inability to lift the lower limb at the knee. One case only was confined to the bed, and that was marked by an advanced stage of hydrothorax, dulness on percussion and disappearance of the respiratory murmur, the pulse was weak, irregular and very much increased in frequency, and after five days the patient died with all the symptoms of pulmonary oedema and heart failure. The other cases, after a period varying from two to six weeks, recovered. One man died on the passage home, and the history of the case, as near as I could ascertain, was similar to that just stated. In three cases there was marked enlargement of the spleen; in only one case was there any trace of albumen in the urine, and there

was a doubt if that was due to the disease in question. The urine in all was scant, high colored, and contained an excess of urates; there was no retention in any case; the temperature was normal in all; the knee-jerk in two cases was entirely lost, in all diminished; the digestive organs seemed to be but little affected; the appetite was fairly good in the majority of cases; nausea and vomiting were present in one case, but was easily controlled; the bowels in all were constipated, but no more than is usually the case in those that go to the Grand Banks fishing, resulting probably from the kind of food furnished on such voyages, and neglect in going to stool.

The prodromic period in these cases, as nearly as could be learned from the patients themselves, was characterized by general weakness and depression, and an indisposition to work; an edematous condition of the areolar tissue on the anterior part of the legs manifested itself, together with severe cramps and pains of a neuralgic character. That the disease was beri-beri there is no doubt, for the symptoms are identical with those described, proving conclusively that the bacteria or septic organism may be produced independent of any earthy or climatic influence, and in a latitude as far north as 45° or 46°.

The undoubted causes of the disease in these cases were defective nourishment; the vessels were poorly fitted for the voyage, the two previous years having been unfortunate ones peculiarly for the owners, in consequence of which the outfit was cut off in every possible way, the salt beef was of a poorer quality than usual, and the stock of fresh provisions was very meagre. The dampness and cold which is always present on the Grand Banks would undoubtedly act as a factor in developing the disease in a system impoverished and rendered anæmic from a diet of unwholesome food deficient in nitrogenous principles. The catch of fish was at irregular intervals, so that having that article in a fresh state was a rare occurrence. The majority of cases in which this disease occurred were strong, able-bodied men, in whom there were no previous traces of any constitutional disturbance.

Treatment. — Diet seems to form an important part of the treatment of this disease. A mixed diet composed of the coarsely prepared grains, as oatmeal, wheat, etc., with liberal allowance of fresh beef, in my own experience, is to be preferred. In regard to medication the treatment is rather expectant than specific. Diuretics and hydrogogue cathartics are indicated when the dropsical effusion is marked; digitalis, to stimulate and control the heart's action. Tincture of chloride of iron and iodide of potassium were also prescribed with apparent benefit.

October 27, 1890. Since writing the above and during the past week about twenty cases of the same disease have been landed here on vessels arriving from the Grand Banks, eleven cases occurring on one vessel out of a crew of thirteen; two of the cases died with the symptoms as before described within twenty-eight hours after being brought ashore. Some of the cases were sent to the United States Marine Hospital at Chelsea, and others are being treated here.

My object in writing this brief report is to call the attention of the profession to the disease and elicit from others their ideas and opinions regarding the same, for it seems to be a settled fact that each year our fleet returns from the Grand Banks there is an increase in the number of cases.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

G. O. SEARS, M.D., SECRETARY.

REGULAR Meeting, Monday, October 13, 1890,
Dr. W. L. RICHARDSON in the chair.

DR. E. G. CUTLER reported

A CASE OF MULTIPLE NEURITIS DUE TO ARSENIC,¹
and showed

A CASE OF PSEUDO-MUSCULAR HYPERTROPHY IN AN
ADULT.

The following case was sent in to the Massachusetts General Hospital by Dr. G. L. Walton:
J. H., teamster, single, aged thirty-eight, born in Ireland and living in Lowell, Mass., gives the following history: Family history is negative. Personal history: Habits alcoholic. About eight years ago was thrown from team and struck on his head, but no serious symptoms followed, having only a stiff neck for a week. Has always been well till about five years ago, when he began to feel weak in the back and legs; he would be stiff in the morning, but get "limbered out" on working; there was also some pain on first starting in the morning. Stopped work one year ago on account of above weakness. He had pain in the thighs and legs at that time; legs and thighs have been growing steadily weaker, till now there is difficulty in walking up stairs, and he finds it necessary to drag himself up by the arms. There is numbness of the feet. He gets tired easily on walking, though he walks as well in the dark as in the light. The arms feel strong, but he feels weak from the hips down. There is no trouble with the sphincters, no girdle sensation, eats and sleeps well, no specific history.

On examination the patient is found to be well-developed and well-nourished. The pupils are normal in reaction. Chest and abdomen negative. Lower extremities, especially the vasti externi, the supra- and infra-spinatus and triceps extensor muscles and the calves, are excessively developed. The cutaneous reflexes are normal. The patellar reflex and ankle clonus are absent. Rhomberg's symptom is absent. When he stoops over he gets up into the erect position with great difficulty, and when he rises from his hands and knees he climbs upon his thighs in a very characteristic way. Examination of the urine gave a specific gravity of 1.024, no albumen or sugar, nothing abnormal on microscopic examination. The calves and other affected muscles feel quite hard to the touch, though perhaps less so than normally. There is atrophy of the glutei. The gait is rolling and slow. Lordosis is marked in the erect position, but disappears on sitting down. There is inability to cross the legs. The electrical reactions are weakened in the affected muscles.

DR. G. L. WALTON: I have nothing to add with regard to these particular cases, the important characteristics of which have been fully presented. The first case is a typical one of pseudo-muscular hypertrophy, the interesting feature of which lies in the age of the patient at its onset, he being one of the oldest patients on record with this form of muscular dystrophy. It is important to note not only the size,

consistency and contour of the muscles, but also the gait and various combined movements. The gait in this case is characteristic.

DR. WEBBER has just reminded me of a case which we have both seen, in which inspection alone would lead to this diagnosis, while the movements made it extremely improbable. This was a young lady whose calves were so entirely out of proportion to the arms and trunk as to make the contrast most striking. They were comparatively enormous, while the arms and trunk muscles were poorly developed. The shoulders were thrown so far back as to present an appearance of lordosis. Upon asking her to step upon the sofa she surprised me by doing so with great activity, and on asking her to lie down upon her back and rise to her feet, she folded her arms and rose to her feet without unfolding them, a feat which she observed the other girls at the school were unable to perform. The case could only have been one, therefore, of unusual local muscular development, amounting to a hypertrophy.

As regards the second case reported by Dr. Cutler, I think great credit is due him for discovering the source of the neuritis. I had examined the patient in my office, and made the diagnosis, without finding its origin further than to exclude alcohol and tobacco. Too much credit cannot be given Dr. Putnam for having so persistently investigated the subject of the mineral poisons; to his efforts are largely due our knowledge of the deviations from recognized types furnished by their symptomatology. It is certainly a wise precaution to look for lead and arsenic not only in all cases of neuritis, but in cases of nervous disease with obscure symptoms and unknown origin.

A case which I have just sent to the JOURNAL for publication illustrates this point. This was a gentleman whom I saw in consultation with Dr. Presbrey of Taunton. The principal symptoms were ataxic gait, very slight tenderness of the calves, loss of muscle sense in the toes, a suggestion of similar trouble in the hands and some nervous irritability, for example, sensitiveness to noise overhead. There was no bladder or rectal trouble, no pupil irregularity, no pains, no diplopia, no girdle sensation. The knee-jerk was absent. The case seemed to be one of very moderate neuritis combined with considerable functional disturbance, and he was put upon nux vomica and general treatment. At a later examination something in the history leading to the suggestion of metallic poison, the urine was first analyzed for arsenic with negative result, then for lead, of which a very large quantity was found. He was allowed only bottled waters, and was put upon iodide of potassium, the dose of which had to be reduced to a minimum, and to be discontinued at intervals; but his condition grew gradually worse both in the intervals and during the administration, until death ensued. A most exhaustive search for the source of lead by Dr. Presbrey had revealed the fact that he was in the habit of drinking large quantities of hot water from a tin-lined copper kettle. Most of the lining was gone, but analysis of water which was heated and allowed to stand in the kettle for a few hours showed traces of lead. This makes, I believe, the sixth case of reported ataxia from lead poisoning, including those reported by Dr. Putnam, but judging by the frequency of this symptom in other forms of neuritis, it is likely to be found more frequently as the knowledge of the subject becomes more general.

¹ See page 463 of the Journal.

There is no branch of neurology of more practical interest than the diagnosis and treatment of multiple neuritis. These cases are extremely liable to be mistaken for locomotor ataxia, on account of the gait, and the absence of tendon reflex. I have seen a case only recently in which the latter diagnosis was made by two physicians in Maine. The brother of the patient set out with him, determined, he said, to travel until he found some one who made a less unfavorable diagnosis. On coming to Boston, he was referred to me by Dr. M. H. Richardson, and proved a case of multiple neuritis, whether resulting from lead or not, remains to be proved by the analysis of the urine, which is being done under Dr. Webber's supervision, whom he also consulted, and who made the same diagnosis. In this case the absence of bladder symptoms and normal pupils were the chief points in eliminating locomotor ataxia, though the gait was that of marked in-co-ordination.

DR. CUTLER: Dr. Walton is mistaken in attributing the credit of the discovery of arsenic to me: it belongs to Dr. Richardson, who thought it must be that of lead, and had the urine examined.

DR. S. G. WEBBER: In the last case Dr. Walton mentioned, he did not speak of the source of the lead. The man was a sea captain who lived largely upon canned goods. He said that in almost every can that was opened there would be two or three lumps of solder. He had a fissure of the anus, and being at sea treated it himself. A part of the treatment consisted in the use of a strong solution of acetate of lead upon a swab which he passed up the rectum, and he stood nearly on his head to get as much in as he could. After about a month of that treatment he began to have the symptoms which finally resulted in almost entire loss of locomotion in the legs.

In the case of pseudo-muscular hypertrophy in the girl, Dr. Walton spared my feelings a little by not stating that I did not recognize it as simply hypertrophy. It was one of those cases that I think might lead to a mistake, and it is instructive in that regard. The calves were very large and very hard, and she stood back so that there was almost or quite lordosis. There was feebleness of the muscles of the upper part of the body and a very great wasting of the arms. She had, while having a good appetite, grown very thin. I made a hasty diagnosis, not making the tests Dr. Walton had spoken of. I understand that she is improving in strength and in flesh, so that it is probably not a case of pseudo-muscular hypertrophy.

DR. J. J. PUTNAM: These cases are of great interest and I am glad to say a few words about them. In the first place, in regard to the case of *pseudo-muscular hypertrophy*, I should like to call attention to the fact that this patient can stand on his tiptoes with great ease. The weakness in the calves is evidently very much less than one would anticipate from the weakness of the thighs. I think that point is interesting, because it certainly is true, as I believe in some of these cases that the calves of the leg are not always large and weak, but sometimes large and strong. The interesting case referred to by Drs. Walton and Webber although not a case of pseudo-muscular hypertrophy, still may be one of those cases related to it, and I think the relation of these diseases is as interesting as the diseases themselves. The investigations of the last few years have shown the way in which the different forms of muscular dystrophy (including pseudo-

hypertrophy) and typical progressive muscular atrophy shade into each other, so that Schultz, who has written one of the most valuable monographs on the subject, concluded that there is no absolutely pathognomonic sign by which we can distinguish between the different forms. Of course from the clinical standpoint, speaking broadly, there are very great differences. I think it is very extraordinary and interesting to see a condition such as this, which usually appears in the early years of life and which we are in the habit of associating with imperfect development, appearing in middle or advanced age, after the nervous or muscular tissues involved have done duty very well for a great many years. Certainly we do see that in a considerable variety of nervous affections. I will simply recall the fact that in the interesting series of eight cases of so-called hereditary locomotor ataxia occurring in one family, reported by Dr. Everett Smith a few years ago, the father, who had been perfectly well up to a late period, finally showed signs of the same disease; and the same thing is occasionally observed, though very rarely, in pseudo-muscular hypertrophy. It is extremely interesting to note the peculiar association that one sometimes sees between these constitutional trophic affections and diseases of unknown pathology, that we are in the habit of calling functional, such as exophthalmic goitre with progressive muscular atrophy and other analogous affections. It seems to me the word "functional," although convenient, is a very misleading one, as leading the mind away from these relationships.

In regard to the case of *arsenical neuritis*, this opens a very large field for discussion as well as for inquiry. The diagnosis of the case seems to be perfectly well made out and the aetiological diagnosis as well, especially in view of the fact that the patient was ataxic. Although neuritis from lead and alcohol and other causes occasionally give rise to ataxia, still this symptom has been observed far more often in cases of arsenical neuritis than in the others. Unfortunately we cannot confidently use the test of the examination of the urine as establishing the diagnosis of lead or arsenic poisoning with the same readiness that we did formerly, because the investigations that have been carried on at my suggestion in the last four or five years have shown that both lead and arsenic frequently occur in the urine of persons in apparent health. A routine examination of the urine for arsenic has been made by Dr. Worcester in nearly one hundred cases, mainly of patients at the Massachusetts General Hospital, not presenting characteristic symptoms, and in at least one in four of them arsenic was found. Nearly the same may be said with regard to lead. The urine of about thirty medical students was tested for lead, and it was found twice. In a much larger number of hospital cases, with various non-characteristic symptoms lead was found in more than ten per cent. One of the students in whose urine lead was found had been perfectly well and had an excellent family history. He had, however, become epileptic, and had attacks of a pronounced but rather a mild character. Since a prolonged course of treatment with iodide of potash he has had no further attacks, more than a year having passed.

I think the fact that Dr. Cutler's patient was poisoned in the way he speaks of may or may not have been true. It could not account for the arsenic in the majority of the cases I examined, and we are almost

compelled to fall back on the supposition that it comes in a considerable proportion of cases from wall paper or fabrics. And it seems to me the community is exposed to a very considerable danger, and one to which it ought not to be exposed. It is a danger which for the larger number is very slight, but for the smaller number very great. This patient apparently got his arsenic from green paper tags, and several instances are on record where sucking arsenical papers has caused serious symptoms and even death. One such source is the paper strips with which envelopes are enclosed.

I think it is objectionable that chemists in reporting upon the condition of wall papers, as to their being arsenical or not, are in the habit of stating that the paper is "dangerous" or "harmless" or words to that effect, as is habitually done. Although intended as an accurate statement, it is liable to mislead, because it seems to be a pre-judgment on the part of a person naturally regarded as an authority as to the amount of arsenic which is harmful or harmless, whereas in fact, this seems to me to be purely a clinical question. *A priori*, the amount of arsenic in any wall paper seems altogether too small to warrant the idea of poisoning, and yet it certainly occurs; so that it is purely a clinical and not a chemical question where the danger stops, and nothing is more striking than the fact that in some of the reported cases, recurrence of poisoning has occurred from exposure to quantities of arsenic which seemed absolutely insignificant. It would certainly be much better if chemists would give the quantitative analysis. This I believe is practically possible. I have recently talked with Professor Sanger who has studied this matter, and he told me that he and Professor Hill of Cambridge have established standard mirrors which can be used to secure quite accurate quantitative estimates.

A single instance which has come to my notice in the past year seems to me to illustrate several of these points. At the Infant Asylum in Jamaica Plain recently, a number of children were taken sick at the same time with peculiar symptoms. All of them had more or less bronchitis, some of them pneumonia, from which I think two died. At the same time several of the nurses had local irritations of the skin. My brother, who at that time was in charge of the Asylum, after looking about and finding no satisfactory cause of this singular epidemic, thought of arsenic, and investigated the paper and clothing, and found that the nurses had recently been provided with certain prints to make dresses of, and had been wearing these. On examination these prints were found to contain a considerable amount of arsenic. It so happened that the cook in my own house had been given a piece of this same stamp to make a dress, and while wearing it she complained of a curious eruption on the face and neck which I looked at and could not make much of. It finally passed away. My brother spoke of the matter to the firm where the cloth was bought. They had it analyzed and a slight trace was reported. It was again examined by Dr. Worcester, and he reports the amount as considerable. Both chemists were thoroughly competent.

In regard to the case of neuritis with ataxia, from lead, reported by Dr. Walton, although I would very readily admit the diagnosis, and have no reason to throw any doubt on it at all, still I have seen in the past few years a number of cases where the difficulty of

distinguishing between neuritis and myelitis was very great, and although, of course, the fact that a case proves fatal is not a proof against the diagnosis of neuritis, still I should consider it as rather in favor of myelitis, and it is almost impossible to distinguish between them at certain stages of the disease. Numbness beginning in the hands and feet and spreading upwards, in a subacute manner, and associated with paralysis or ataxia, with diminished or increased knee-jerk is certainly met with, not very infrequently, especially with enfeebled persons. I have examined microscopically four spinal cords and found the characteristic lesions of posterior and lateral sclerosis with diffuse myelitis. It is also a matter of considerable interest that in several of the cases that I have seen lead was found in the urine. In three or four of these it was found twice, and in one, arsenic had been found three times. Whether the symptoms were due to that cause I do not know. I had reason to think, in all the cases, that the causes were several in number and among them were conditions of imperfect development. In regard to the sea captain from Maine, it is also a matter of interest that there seems to be a peculiar liability among the seafaring profession to have neuritis develop for some reason or other, and neither lead nor arsenic is capable of explaining it. Dr. Shattuck reported quite a number of cases of neuritis which occurred on a certain vessel, and I have seen partly through the kindness of Dr. Irwin, several other cases, and have collected notes of a still larger number. Part of the cases came from two or three vessels off the Grand Banks and part of them from off Cape Cod, and the cause of the trouble could not be made out. No reason for suspecting lead or arsenic could be found.

DR. E. S. WOOD: I wish to say a few words in connection with what Dr. Putnam has said in reference to the standard by which a paper is pronounced dangerous or harmless. It is certainly a purely arbitrary one, and the limit which we, at the medical school, have established, has been ten milligrammes of arsenic to the square metre, or about one-sixth grain to the square yard. That amount was what we tried to have established as the limit in the act which we attempted to have passed by the Legislature, but which failed. The only object of making that limit was that we had known of cases of arsenical poisoning which were due to an amount of arsenic in wall-paper of about one-fifth or one-sixth of a grain to a square yard and had never known with certainty of poisoning being produced with any amount less than this, and, therefore, that we could safely say, in the vast majority of cases, that only in those cases where a patient was exceedingly susceptible to the action of arsenic could any symptom be ascribed to an arsenical wall-paper having an amount less than about one-sixth of a grain to the square yard, or what we always speak of as ten milligramme paper.

In regard to the scale of mirrors which Dr. Putnam referred to as having been worked out by Professors Hill and Sanger, it merely means that a distinction can be seen between a mirror formed of one one-hundredth milligramme of arsenic, by two, three, etc., up to ten one-hundredths milligramme; so that by comparing a mirror formed from a square decimetre of wall-paper, the amount can be approximately estimated, provided that it is not more than ten milligramme paper, and by diminishing the amount of paper, an approximate

estimation can be made. The amount which we always take for an analysis in the medical school is a square decimetre, and when the amount of arsenic in that square decimetre gives a mirror which is larger than one-tenth millegramme of arsenic we call the paper dangerous; if the mirror is smaller, then we say it contains an insignificant trace and is harmless. That limit is an arbitrary one, but I don't see how the chemist can do anything else. He cannot know the susceptibility of the patient without knowing anything about the patient, and in 999 out of 1,000 cases the physician himself does not know this; so that I think, in the vast majority of cases, it is perfectly proper to draw an arbitrary line where the limit is put as small as ten millegrammes to the square metre.

DR. PUTNAM: I think that would be perfectly true if all chemists would agree on the amount. Again, the fact of the paper being dangerous or harmless depends just as much on the degree of exposure as on the amount of arsenic in the paper. If the person is in the room a long time a paper may be dangerous, which, in the case of a person who only occupied the room for a short time, would be harmless.

NEW YORK STATE MEDICAL ASSOCIATION.

THE Seventh Annual Meeting was held at the Mott Memorial Hall, New York, October 22d, 23d, and 24th, 1890, the President, DR. JOHN G. ORTON, in the chair.

The Chairman of the Committee on Arrangements, DR. J. G. TRUAX, in his report formally welcomed the Association to its occupation of a new home and library at the Mott Memorial Hall, recently acquired for permanent use.

The Annual Report of the Secretary referred to the New York State Medical Examinations Bill, which has recently become law. He stated that every pressure, by argument and remonstrance, was brought to bear upon the Governor to withhold his signature, upon the ground that the bill had not been duly considered in the Senate, and that its clauses were unjust and one-sided. The tenor of the reply to this appeal was that the Governor must assume the bill to have been duly considered in committee and that if exception was taken to it, another bill in modification could be sent up next year.

THE PRESIDENT'S ADDRESS.

The President congratulated the Association on having at last acquired a home for its members and its library. He then considered at some length the question of educational preparation for the profession. He said that while upholding the principle that medical colleges should demand proof of adequate preliminary education from would-be medical students, he was not prepared to go so far as to say that the possession of academic degrees should be demanded as a *sine qua non* of qualification for entering upon a medical course. He did not believe that the colleges of this country were below par. There was every evidence that they were steadily raising the standard of excellence in the educational pabulum. They were really better adapted to the requirements than were those of the old country. The unfortunate phase of the situation was that the colleges had not shut their doors against inadequately prepared students. The speaker then paid unqualified

tribute to the value of medical journals, which he said had assumed a proportion and weight of character unequalled in any other literary branch of science or art. To-day, a subscription to a reliable medical journal was an investment which would repay with interest many times compounded. He advocated the establishment of local boards of sanitation, the business of which should be to formulate principles of sanitary science for the people, for publication in the secular press, which would enable them to intelligently guard against preventable disease.

PROGNOSTICS IN MEDICINE.

DR. JOHN CRONYN, of Erie County, read a paper on this subject. In the course of an extended review of points for prognosis, he touched upon the question of treatment. He thought that prognosis in cases of apoplexy could now hardly be as favorable as when blood-letting was more in vogue. Pneumonia was not as low in the mortality tables as the vaunted progress in medical science would seem to warrant.

NEW METHOD OF TREATMENT FOR RETRO-DISPLACEMENT OF THE UTERUS, WITH ADHESIONS.

DR. A. P. DUDLEY described his present method of surgical treatment for certain forms of the above condition. After review of the various methods for correcting this lesion, recently in vogue, he narrated the details of his operative procedure in a case of diseased ovaries and tube. He opened the abdomen, broke up the adhesions about the uterus, and then taking the left ovary and tube he drew them up through the abdominal incision, and saw that the fimbriated extremity was open. He then took a piece of No. 27 silver wire, slightly pointed at one end, which he gently passed through the entire length of the tube, demonstrating it as pervious. The ovary, which contained several cysts, was then tapped with a spear-pointed needle, by passing the needle directly through the organ and squeezing the water out. The sacs were then allowed to fill with fresh blood. The tube and ovary were dropped back and the right side was treated in the same manner. An assistant then placed two fingers in the vagina, and lifted the uterus as high as possible in the pelvis. The operator was thus enabled to bring the uterus close up to the abdominal incision. With a pair of delicate scissors he then denuded the peritoneum from the anterior wall of the uterus, the surface thus freshened being of an oval shape. Care was taken not to go too near the bladder. Then each round ligament was brought up and a portion of the peritoneal covering upon the inner side denuded to correspond with that upon the uterus. With continuous suture of catgut he then sewed these denuded surfaces together. The sutures were passed deep enough to secure against their cutting out before union took place. The uterus was then dropped back and the traction upon the round ligaments immediately drew the organ into a position of anteversion, the sutured surfaces lying in apposition to the posterior surface of the bladder. He did not introduce a pessary, preferring to allow the work to rest upon its merits. The advantages of this operation were three-fold: (1) It shortened the round ligaments, without sacrificing any part of them, sufficiently to hold the uterus in a position anterior to the perpendicular line of the body. (2) Denuding and firmly fastening the round ligament to the anterior surface of the uterus, thickened and

gave extra support to the latter. (3) The uterus was maintained in a normal position without fastening any of it to the anterior abdominal wall, a position which he thought Nature never intended it to occupy.

The operation the speaker claimed, presented the following advantages over hysterorrhaphy or Alexander's operation: (1) It corrected the displacements by utilizing the natural supports of the uterus without sacrificing any of them. (2) The proper diaphragmatic action of the pelvic floor was not interfered with. (3) The bladder was not imprisoned, and its proper action was undisturbed. (4) There was no chance for intestinal adhesion about the line of suture for the latter laid in apposition to the posterior surface of the bladder and adhesion taking place at this point simply elongated the utero-vesical junction. (5) In case of impregnation the uterus was free to lift in the abdominal cavity naturally. (6) The use of the catgut suture did away with the danger of the formation of sinuses by the ligature. One of his objects in performing this operation had been to save this woman's ovaries, for he had come to believe that more was taken out than should be. He had operated in the manner described four times, and he thought this was enough to demonstrate that it was possible to attack the cysts in the ovaries and still not have any trouble in the tubes and ovaries after the laparotomy.

DISCUSSION ON INTRA-CRANIAL LESIONS.

This subject was considered by various speakers under the following subdivisions:

- (1) The present means of localizing intra-cranial lesions.
- (2) The nature of the chief intra-cranial lesions (hemorrhage, abscesses, tumors), and how they can be discriminated.
- (3) The indications and contra-indications of operative interference in cases of intra-cranial lesions.
- (4) The best modes of operating in cases of intra-cranial lesions.
- (5) The immediate and also the remote results of operative treatment in cases of intra-cranial lesions.

DR. W. W. KEEN of Pennsylvania prefaced his remarks by the exhibition and description of a new Rolandic fissure meter, with radiating arm and index, built after the manner of a cystometer, and the design of Mr. Horsley of England. The indications for operative treatment in the brain lesion, he said, should be based upon careful observation of the peculiar physical characteristics, the mechanical depressions and functional disturbances.

In the course of an elaborate survey of the whole clinical aspect of the subject from an operator's point of view, the speaker emphasized his opinion that if a lesion could be located and differentiated from other conditions which might produce more or less similar phenomena, and if the general clinical indications were such as pointed to the necessity for operative treatment, then it was the duty of the competent surgeon to open the head. The head had been too long regarded as something apart and different from other portions of the body, and he would urge that it should be made to fall into line with other cavities, subject, as it was, to the same diseases and injuries. The methods of treatment might require modification in detail, but should be the same in principle.

DR. J. J. PUTNAM drew attention to the relative value of certain so-called localizing signs of cerebral

tumors, especially such tumors as laid a little outside the familiar areas of the central, temporal, and occipital zones, and only impinging upon them, so that the symptoms to which they gave rise would be liable to occur rather late in the progress of the case. There were cases which, obviously for more reasons than one, were relatively unsuited for surgical treatment. It was generally admitted as a clinical principle, that the monoplegia and localized paralyses were more valuable as localizing signs than the mono-spasm or localized convulsions. Those functions of the brain which were relatively of a highly specialized and complex character were more likely to suffer disturbance than the less highly specialized and complex, or more fundamental functions. There must be few tumor operations, in which the convolutions near the growth were not found more or less displaced, and often they were broadened to twice their natural size, or flattened to the thickness of card-board. There were cases, however, where this error was of importance, those, namely, where convolutions were excited by pressure transmitted from a considerable distance, or by oedema and anæmia. This had occurred in a case of the author's. Unilateral neuritis had been held as being significant in indicating the pressure of a tumor of the opposite side of the brain. But the reverse of this condition was true in the author's case of tumor of the middle frontal convolution so that this sign was really of very little value. No one interested in cerebral localization could have failed to notice the experiences of Scharffler and Mauk, in showing that infinite movements of the eyes and eyelids were represented in the posterior limb of the angular gyrus, and in the occipital lobes, the connecting tracts reaching the oculo-motor nuclei, not indirectly through the Rolandic area, but by direct paths.

DR. C. K. MILLS said the causes of failure in the present method of localizing intra-cranial lesions were due to a variety of circumstances, and might conveniently be arranged into several classes: (1) by giving too much weight to certain classes of symptoms, which were regarded as determinative of the site of the lesion, as for example, the so-called signal or initial symptom; (2) by considering only symptoms of late invasion, as in the case of lesions growing from latent to active areas; (3) by giving relatively too much importance to motor localizing symptoms; (4) by overlooking multiple or diffused lesions; (5) by operating for incurable cases of arrested development. The so-called signal or initial symptom while of great value, had proved sometimes a misleading light. The motor signal symptom had been made use of in a large number of cases to guide the surgeon, sometimes successfully, but the author was almost inclined to say, almost as often not so. It must be remembered that in every case of unilateral or mono-spasm, whether reflex, dural, nephritic, toxic or hysterical, the spasm really, or apparently began with an initial symptom in the limb or face. This might indicate that the beginning of the cerebral discharge occurred in the area of the cortex, which was the seat of the representation of the movements, but it would be unwise to operate with such indications. Occasionally conjugate deviation of the eyes and head had been used as a guide to operative procedure. This was one of the errors into which a thoughtless, or badly informed neurologist might sometimes be led. In making a diagnosis as to the existence of hemorrhage, we must depend more

largely upon general symptoms. What was true of tumor in this respect was still more strikingly true of abscess. A number of mistakes had been made in cases of trephining for tumor or abscess by the operator being guided too much by motor symptoms, which were really the result of the diffusion of the lesion to the motor areas. In the analysis of the symptoms with a view of deciding as to operation, too much stress was sometimes placed upon motor symptoms, particularly on more or less circumscribed spasmoid manifestations. In not a few cases of cerebral abscess, sensory or special symptoms, might decide in favor of operating, and at the same time might not properly guide to the seat of operation. All active localized symptoms of the brain, the result of mastoid or aural disease, unless it was word deafness and left-sided affections, were the result of the extension of the purulent process. Several mistakes had been made, in cases in which large lesions, either in the frontal or temporal lobe, had caused prominent motor symptoms by pressure, either upon the motor tracts in the capsule, or upon the cortical areas of these tracts. In one case of this kind the symptoms all pointed to brachial crural monoplegia, due to tumor and intercurrent hemorrhage. The autopsy showed a tumor with large hemorrhage in the right temporal lobe, and strictly confined to this lobe, but evidently causing great pressure. Several recorded failures had been the result of overlooking the pressure of multiple or diffused lesion. Operating in cases of tubercular disease of the brain vessels or membranes, had also been another source of error, and cause of failure. It was one error at least in the majority of cases to operate guided by certain localizing phenomena of the spastic and paralytic, congenital and early infantile affections. A careful review of the surgical operations guided by localization rule, in whole or part, showed that probably the greatest success during the last few years had been trephining for endo-cranial hemorrhage. Occasionally failure had resulted in traumatic cases, and for several reasons. In the first place the fact was not fully considered, that in many cases of depressed or non-depressed fractures, hemorrhages took place not only at or in direct connection with the place of injury, but also at various positions more or less remote.

DR. J. D. BRYANT in considering the question as to the present means of localizing intra-cranial lesions, limited the term lesion to abscess, hemorrhage, depressed bone and tumor of intra-cranial origin. The present means of localizing these lesions could be classified for convenience sake as topographical, physiological and instrumental. The topographical related to the connection existing between certain established landmarks, and lines of the cranium, that were found to bear a decided relationship to superficial parts of the brain, many of which parts had had definite functions assigned to them already. The physiological means related to the establishment of the site of a pathological process by studying the derivation of the function of a part from the normal, as the result of a local disease or injury. The instrumental means were largely subsidiary and their application was often more of an experimental than of a practical character. The speaker then further dealt with the question by the recitation of cases having direct bearing on the subject. Among the most important deductions were: (1) That a small and presumptively circumscribed in

jury of the brain substance at the upper end of the fissure of Rolando, might incite an advancing cerebral disintegration sufficient to involve the motor centres associated with this fissure, without causing notable constitutional symptoms. (2) That aspiration of the brain as a means of diagnosing the existence, or the situation of an abscess, was of uncertain utility, even when a fair-sized needle was used, and that the employment of the ordinary hypodermic appliances for this purpose was entirely unreliable and misleading. (3) That extensive fissure could begin at some distance from the violence causing it, and that its existence might remain unrecognized without an extended exploration. (4) That extensive and fatal vascular complications might be caused at a considerable distance from the seat of an apparently innocent injury of the scalp or skull. (5) That where paralysis, involving the motor areas of the brain, followed an apparently trivial injury of the head, an operation at the seat of the areas was indicated for the purpose of exploration alone. (6) That the removal of a compressed brain clot was not necessarily followed by improvement of the symptoms of compression, and that if the brain did not soon resume the normal relation with the skull, death would ensue as the result. In another of the cases cited, the patient had, immediately after being hit over the head with a bottle, lost the power of speaking his own name, but had been able to write it and the name of his assailant on paper. When admitted to the hospital he could not recall his own name or those of many common things. An examination of the injury had disclosed a small circumscribed compound depressed fracture of the skull, located near the lower end of the fissure of Rolando. On the following day the depression was elevated and the aphasic symptoms had all disappeared. The case had impressed the fact that circumscribed compression, due to traumatic influence, might limit its effects to one motor centre only.

DR. T. H. MANLEY spoke of lesions of the brain substance of traumatic or mechanical origin. He described the proper use and common abuses of the trephine, and protested against the unnecessary use of anesthetics in intercranial operations.

HYPNOTISM.

DR. ERNEST SCHMID in his remarks upon this subject said nobody hesitated to admit the influence of the body upon the brain. Eminent alienists maintained that no diseased state of the mind ever existed without a pathological condition of some portion of the brain. Why should we then hesitate to admit the influence of the mind upon the body. The author held that every unconscious imitation was a transfer of a brain movement communicated to another brain in such a manner that the brain which repeated this movement of the first brain, adopted it as one of its own originating, and not a repetition. On this rested the great problem of hypnotism. That the view of the contagiousness of brain movements, of physical, intellectual and moral diseases, was not a singular one, and was demonstrable amongst other things by the fact that not a few alienists had formed the belief that mental aberration might be communicated to a sound mind by example and daily intercourse with the insane. There did exist within us a secret force which constantly conformed our thoughts to our actions, and our entire inner being to our external habits. The speaker was

convinced that the true essence of hypnotism possessed kindred elements to those thoughts. It was the imparting of a brain movement to others or the creating of a new one in another, which became as the other self-originated thought. That the hypnotic state could be produced was an established fact. Like all other therapeutic measures it had its circumscribed sphere, but its usefulness was destined to become very great.

RETENTION OF URINE FROM PROSTATIC OBSTRUCTION IN ELDERLY MEN: ITS NATURE, DIAGNOSIS AND MANAGEMENT.

This paper was read by DR. J. W. S. GOULEY. The author said that to the question, what caused this impediment to urination in elderly men, a common but incomplete answer was, enlargement of the prostate. This answer was incomplete because of its failure to specify the kind of enlargement, for it was known that elongation and also uniform general enlargement of the prostate did not obstruct the urethra or vesical orifice, or impede urination. Very large prostates had been discovered after death in elderly men who had never suffered the least inconvenience in urinating, and whose bladders were in a normal condition. On the other hand, small prostates, that is, of even less bulk than natural, with only moderate increase of the lower isthmus, often sufficiently obstructed the urethro-vesical orifice as to give rise to stagnation of urine, cystitis, and even to complete retention of urine. It was then only where the prostate was unequally enlarged that it interfered with urination, and to this, even, there were exceptions, for the multiple tumors at its base sometimes caused incontinence of urine, as did other forms of prostatic enlargement which prevented the closure of the urethro-vesical orifice, and allowed the urine to flow constantly from the bladder as fast as it trickled out of the ureters. Of the several forms of unequal enlargement of the prostate which obstructed the urethro-vesical orifice the following might be named: (1) General enlargement with excessive development of the posterior third of the lower isthmus, called supra-montanal portion by Mercier, and third lobe by Haue. (2) Enlargement of the posterior third of the lower isthmus, without apparent increase in the rest of the prostate, sometimes called concentric enlargement. (3) Enlargement of one lobe which encroached upon the opposite lobe and obstructed the prostatic urethra. (4) Unequal enlargement of both lobes rendering the prostatic urethra tortuous and obstructing it. (5) Multiple intra-urethral tumors; and (6) Intra-vesical enlargement of one lobe. Such were the principal forms of prostatic enlargement that impeded urination.

These alterations of structure differed somewhat in their component elements. Of the several steps in the diagnosis of abnormal urination and retention of urine due to prostatic enlargement, chiefly the following were employed: First, the history of the patient, especially in regard to his mode of urinating. Then there would follow physical exploration. The first step in this was palpation, then percussion. The second step consisted in making digital examination of the prostate through the rectum, by which means some idea might be formed of the size and consistency of the organ. The third step consisted in ascertaining the particular kind of enlargement present. A number of exploring instruments were then presented for the inspection of the Society. In the management of

acute retention of urine, to temporize, or to rely upon the use of medicaments in any case, was to place the patient in great jeopardy. The urine should be drawn with the catheter as shown by the speaker, slowly, and a small quantity at a time. The reason for this precaution was that the too precipitate evacuation of an over-distended bladder was sometimes followed by distressing and dangerous effects, such as profuse hemorrhage from its mucous membrane, cystitis, polyuria, and so forth. The after-treatment of these cases should accord with the particular necessities of each.

DR. J. A. WYETH said that in cases of persistent cystitis, it was his practice to perform supra-pubic section. He thought this the best method for dealing with this very obstinate disease. This operation in his hands had given better results than when treated by the urethra. Not only was immediate relief obtained, but a better command of the bladder was possible. He had only been doing this operation the last two years, but in that time about thirty cases had been so treated, five of which were tumors of the prostate, good results being obtained in all. He thought that for prostatic tumors the high operation was by far the best. It was his method in removing such to use the clamp forceps, and with the fingers at the prostate, gradually to twist them off, using the actual cautery to the stump. Relief had always been prompt, and in only one case did the bladder fail to remove its contents. The speaker had found that the oil of gaultheria was the best remedy to prevent the decomposition of urine. He gave it by the mouth, four or five drops, three or four times daily. When this drug was given, the urine would not decompose. The Trendelenberg drainage-tube was the one used, and six to eight weeks was the longest it had ever been necessary to leave it *in situ*.

DR. GOULEY was in full accord with the speaker in doing supra-pubic cystotomy for the removal of prostatic tumor, but he would not do the operation for this alone, but rather incidently. He believed that in the majority of cases the bladder could best be reached through the urethra, and as for doing the operation for the purpose of cleansing and drainage, it should not be thought of. In cases of contracted bladder, from prostatic obstruction, it was the speaker's practice to use hydraulic pressure to dilate, frequently increasing the capacity of the bladder from one-half an ounce to four ounces. He did not think it necessary to give anything by the mouth for the purpose of preventing decomposition of urine, when we had the means of applying it directly in the bladder.

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THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

At the annual meeting held October 27, 1890, the following officers were elected: President, Dr. Orlando B. Douglas; Vice-President, Dr. Arthur M. Jacobus; Secretary, Dr. Charles H. Avery; Assistant Secretary, Dr. Wm. E. Bullard; Treasurer, Dr. John S. Warren.

The report of the Board of Censors, which included an elaborate report from W. A. Purrington, Esq., counsel to the Society, showed that during the year past there had been 159 cases of illegal medical practice investigated, 29 warrants procured, and about \$1,100 collected in fines from illegal practitioners.

The report urged that the laws regarding the issuing of licenses to practice medicine be more strictly enforced.

HYGIENE IN THE PUBLIC SCHOOLS

was the subject of a special report read by DR. HENRY S. CHAPIN, of the Committee on Hygiene, in which he stated that a personal investigation by him, of which he gave a detailed report, showed that many of the class-rooms were overcrowded, badly lighted, badly ventilated, and subject to foul odors. For instance, in one of the up-town school-houses, a one-story building, which was formerly a skating-rink, he found that six of the class-rooms had no window opening on the outside air, but were lighted and ventilated by sky-lights only and the ventilation was insufficient. Three of the class-rooms were unprovided with desks. The closets were on the same floor as the class-rooms, and an offensive odor was distinctly noticed in the rear class-rooms, 960 children attended at this school, and during September 220 others were excluded from it for want of room. The following is Dr. Chapin's report of another school: "School 7, No. 60 Chrystie Street, 1,100 children. This primary school is in three buildings, one of which is an old rookery, formerly a tenement, and another is part of an old factory on Hester Street. The whole establishment is a disgrace to any civilized community. The children come from poor families and they are given the poorest and scantiest accommodations. On a bright, sunshiny day, eleven of the stuffy class-rooms were lighted by gas, which, with the poor ventilation, made the atmosphere almost unbearable. Foul air from the boys' closets finds access to the school-room through the open windows and passage-ways connecting the closets with the room above. Three back rooms on this floor have been condemned on account of the foul air and the general darkness, but the other rooms connecting with them, and in substantially the same condition, are crowded with children.

He found that the amount of air space allowed to the pupils by the regulations of the School Department is as follows: "In the three lower classes of the primary departments, seventy cubic feet to each pupil; in the three higher grades of the primary departments, eighty cubic feet; in the four lower grades of the grammar schools, ninety cubic feet, and in the four higher grades of the grammar schools, one hundred cubic feet. In marked contrast to this is the Board of Health's requirement, that four hundred to six hundred cubic feet of air space shall be allowed to each occupant of a tenement house, and that, at least, four hundred cubic feet shall be allowed to each lodger in a lodging-house.

Dr. Chapin's report was unanimously concurred in by the other members of the Committee on Hygiene, Drs. Baruch, Page, Edson and Emerson.

The Committee on Hygiene, through its Chairman, DR. BARUCH, also submitted a report on

THE GENERAL APPLICATION OF HYGIENE PRINCIPLES TO LARGE COMMUNITIES,

in which public baths were especially commended, and in which it was suggested that an improved system of such baths be established, and that the custom of taking frequent baths be developed and extended by legal regulation. The Committee thought that there could be no better way of expending public funds than in the prevention of disease by putting the facilities for taking baths within the reach of every individual, and further

more suggested that baths, especially warm shower-baths, should be attached to the public schools.

In commenting on Dr. Chapin's report, the Superintendent of Public Instruction, MR. JOHN JASPER, said: "It is impossible to make the old school buildings perfect as they stand. In 1884 the city was allowed to issue \$2,000,000 in bonds for public-school purposes. The same amount was also allowed in 1885 and in 1886. In my report for 1887, I recommended that twenty-one new school buildings be erected as soon as possible. Work has been pushed on a number of new school-houses in the last three years, and the \$6,000,000 has been nearly used up. We are doing our best with what we have."

Recent Literature.

The Latin Grammar of Pharmacy and Medicine. By D. H. ROBINSON, Ph.D. Professor of Latin Language and Literature, University of Kansas. Philadelphia: P. Blakiston, Son & Co. 1890.

This book was intended for use as a text-book of Latin in the first year of schools of pharmacy and medicine, and, as such, it is excellent. A course in which it had been carefully studied would leave a young man, with no previous training in Latin, more than able to do himself credit on as much of the language as is met with in pharmacy or medicine. The constant use, while learning the language, of most of the words which he is later to meet, will be, of course, of great advantage to him.

The book is unnecessary for those students who already have a fair knowledge of Latin grammar, as it is practically a grammar with medicinal words and phrases substituted for classical ones. It would, therefore, hardly contain all that is needed for the examination in Latin which is required for admission to many medical schools. For the medical student, at least, the work would be more complete with a chapter on the practical application of medical Latin to prescription writing, and one on the distinctive terminations denoting the chemical properties of drugs.

— By virtue of a recent decree of the czar, female physicians are given the right to practise in the empire of Russia. It is hoped that the dearth of doctors now existing in certain provinces may be thus relieved.

— The pilgrimage to Mecca was effected this year under deplorable conditions. The total number of deaths from cholera cannot be even approximately stated. The unfortunate who falls is simply abandoned, his fellow pilgrims contenting themselves with covering the body with a light layer of earth. This year 43,000 pilgrims arrived by sea, the number that returned did not exceed 23,000. Fifteen thousand were therefore left on the plains or along the route of travel. In addition, at least 10,000 arrived by caravans. The estimate of a mortality of thirty-three per cent. is undoubtedly short of the actual number. One caravan set out 25,000 strong, and numbered 900 on arrival, in consequence of a "sickness by which many people died." This seems to show that cholera was not purely of Indian origin, but existed in Arabia before the pilgrimage.

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THE RELATIVE VALUE OF PHARMACEUTICAL AND HYGIENIC THERAPEUTICS.

DOUBTLESS, with the progress of the age, more and more preponderance is given to therapeutics based on hygiene and etiology. The fact is everywhere recognized that medicines are only auxiliaries to restoration, and that they are much more efficacious where the disease is due to derangement of function, than where it is the expression of serious structural alterations. Physicians long in practice rely much less on medicines than when they were fresh from their studies and had unlimited faith in the resources of *materia medica*. The story has been told of the old physician who was called in consultation in a difficult case with a young graduate; he heard the lengthy detail of medicines prescribed, and saw the formidable array of bottles; and then, after due consideration of the case, in view of the fact that despite the varieties and quantities of remedial agents, the patient was steadily getting worse, the senior practitioner mildly suggested to his youthful *confrère*, "to put all medicines to one side and give nature a chance."

With a decline of faith in the mysterious latent potencies of drugs (much as these are still valued as helpers) comes increased confidence in the natural means of cure: air, sunshine, cold water, exercise, rest, climate, food. Modern text-books on Practice more and more emphasize these hygienic means, giving but a subordinate place to drugs, which are largely used as agents only of a symptomatic treatment.

No one would now think of treating a disease due to overwork by medicines alone, when rest and return to right habits of living are clearly indicated. How irrational to treat a patient who is suffering from insomnia by administering nothing but hypnotics night after night, when the cause is simply close application to study or to business. The patient will doubtless be for the time relieved by his nightly dose of morphine, chloral or paraldehyde, but the cause will be still the more operative for evil when the hypnotic is withdrawn; and who can tell the harm that may be done

to the individual by the formation of a habit of dependence on the somniferous agent?

How irrational to combat the symptomatic manifestations of alcoholism or tabagism by nerve-medicines, and allow the patient to continue the practice of his vice, or to stimulate a condition of exhaustion due to lack of nourishment without giving any food or attempting to get the stomach into good working order!

These illustrations might be indefinitely extended; it is not necessary for our purpose to pursue them further. Medicines have their place, though that is often but a subordinate one, in the treatment of disease. The victim of constipation will need laxatives and cathartics till, by being taught to practice a better hygiene—especially with regard to diet and exercise—he finds that he needs laxatives no longer. The victim of insomnia may temporarily be helped by a hypnotic, but he must *rely* on the reformation of some bad habit which prevents him from sleeping. The individual who has been exposed to malarious emanations and has ague may need quinine to break up his intermittent, but sequestration from the malarious climate is none the less the predominant indication. The gourmand may require an emetic or purgative to rid himself of the evils of a surfeit, but to him the "first law of cure" is abstinence. The neuralgic sufferer will demand an opiate or other analgesic for his pain, but his *recovery* will depend on other and hygienic means.

These truths are so trite that they hardly need to be stated, and yet there is danger of overlooking or disregarding them every day and every hour; besides, it is so easy to *dose* one's patients, and it sometimes requires so much judgment and tact to fathom the cause of the derangement and prescribe the right kind of hygiene!

A word must be said about "etiological therapeutics." It is undoubtedly true that medical science is steadily advancing in the line of etiology, and that much has of late years been accomplished in ascertaining disease-causes that were formerly obscure or altogether unknown. All the infectious diseases are with great probability now referred to microbes, and many of the infectious agents are now known. As far as these "contagia" or "germs" become understood, there is a predominant interest to destroy them by "antiseptics," which kill the microbe without injuring the human organism. Here, then, is a wide field for pharmaceutical experiments, and such will still have an important place in the etiological therapeutics of the future. It is true that such internal parasiticides are yet few.

At the same time there will always be the necessity for rigorous hygiene—fresh air, exercise, change of climate, etc.—to fortify the organism and render it unsusceptible to disease agents. The old adage about the "ounce of prevention" will always hold good. "Prophylaxis" will ever come first in the chapter on "Treatment."

KOCH'S CURE FOR CONSUMPTION.

SINCE the announcement by Koch at the Tenth International Medical Congress that his experiments with the tubercle bacillus were likely to result in the preparation of a substance which would arrest the farther development of the bacillus in man, the whole world has been aroused to a state of expectation which no medical subject has ever before excited. The reason is easily understood if one stops to realize the enormous number of people on the earth who would have profound personal interest in a process which held out a rational expectation of stopping consumption already established.

The great hope that he may be entirely successful, is likely to prejudice good judgment, and until Koch speaks we shall have to be cautious in giving too much credit to the reports which reach us, and which are pretty sure to be painted in glowing colors.

Any statements of Koch are worthy of the greatest consideration, but as he has for the present absolutely declined to be interviewed, and as the experiments on human subjects have been surrounded by the utmost secrecy, the medical press has, as a rule, been content to wait quietly for developments; but the lay press all over the world has been publishing rumors and interviews, from more or less trustworthy sources, of as much as can be seen outside of Koch's private laboratory. A number of patients have been treated at the Charité Hospital, and later, to secure greater secrecy, in another institution. Many are reported to have been entirely cured. As good an authority as Professor Leyden has said that the experiments have been crowned with success. Only persons known to be suffering from tuberculosis have been treated, and all have signed papers not to reveal what they have gone through. Koch has been relieved from his duty of giving lectures for the present. He has announced that he is not seeking for personal fortune, and that in good time he will publish all particulars of his process. The emperor is said to have proposed that the government build a bacteriological institute under Koch's charge giving him an annuity and a title. It is rumored that the process, if successful in curing tuberculosis, may, with modifications, be made applicable to the treatment of other diseases, notably diphtheria. A full publication is promised within three weeks, which will contain a sufficient description to make it possible for any one with a properly equipped laboratory to produce the substance.

The accounts are not all equally encouraging. Some of the European papers announce that Koch is disappointed at the results which he has obtained since the Berlin Congress.

— At a meeting of the Boston Society for Medical Improvement, held November 10th, a committee was appointed to make arrangements for a meeting memorial of the late Dr. Henry J. Bigelow; and Wednesday, November 19th has been appointed as the date,

all members of the Massachusetts Medical Society being invited. The pages of the JOURNAL continue, in the resolutions received, to emphasize the fact that by the death of Dr. Bigelow the profession of medicine has lost one of its most original and distinguished members — a man whose genius had been acknowledged at home and abroad, but whose remarkable versatility and individuality were naturally only fully understood in the community where his life was passed.

MEMORIAL. HENRY J. BIGELOW, M.D.
SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

BOSTON, November 8, 1890.

MR. EDITOR: — At a meeting of the Surgical Section of the Suffolk District Medical Society held Wednesday, November 5th, the following resolution was passed. It was also voted that a copy of this resolution be sent to Dr. William Sturgis Bigelow, and that another be given to the *Boston Medical and Surgical Journal* for publication:

"Resolved, That we feel that by the death of Dr. Henry Jacob Bigelow the surgical profession in America has lost its brightest light.

"His acute discernment and inventive genius made contributions to the surgical art which have put mankind deeply in his debt, and have won the undisguised admiration of his peers through all countries.

"We, his associates and scholars, know, too, his inspiration as a teacher, whose genius so illuminated his subject, that what might have been dry detail was endowed with interest and fixed indelibly in the memory.

"Conscious of the high gifts and genius of Dr. Bigelow, we wish to place upon our records a mark of our appreciation of what he was, and what we owe him."

Truly yours, G. H. MONKS, M.D., Secretary.

MEDICAL NOTES.

— A report issued by the Interstate Commerce Commission shows that nearly two thousand railway employés were killed by accident last year and that more than twenty thousand were injured.

— A bill has been passed at Philadelphia which enacts that no milk shall be sold in that city which shows less than twelve per cent. of cream.

— Within a few years there have been four cases of leprosy reported in Philadelphia and vicinity. The president of the Philadelphia Board of Health, has written a letter to the Supervising Surgeon of the General United States Marine Hospital Service, to ask his opinion as to the proper disposition of cases of leprosy which will from time to time be discovered in various parts of the country. A suggestion is made that the government should provide places where persons suffering from leprosy could be separated from the public, and humanely cared for and treated in such a manner as not to deprive them entirely of the comforts and enjoyments of life.

— The students at the Woman's Medical College, Philadelphia, are in a quandary. Half of them want

to abolish the regulation white silk dresses on commencement day, and wear instead the dignified gown and scholarly mortar-board. The Faculty is nearly as much disturbed in finding a solution for the all-absorbing problem as the girls are. A member of the Faculty has said that there is no predicting when the question will be settled.

— The laws recently passed in some States limiting the practice of medicine seems to have placed some curious restrictions to the practice of the most respectable physicians. It is reported that a physician regularly licensed to practice in Brooklyn, was arrested in northern New York for giving medical advice to some one whom he met. A recent law of New Jersey prohibits physicians from other States practicing their profession within its boundaries. A large number of New York physicians have thus been cut off from their practice at the various summer resorts in that State.

— The Berlin police have issued a caution to the public against so-called "dried mushrooms," which are being sold, and which very frequently contain poisonous fungi. The caution calls attention to the fact that edible mushrooms when dried remain white, while poisonous varieties acquire a bluish tint.

— Mathias Duval has studied his faculty for remembering the names of different persons, and finds that the better a face is impressed on his mind, the more likely is the person's name to be forgotten, whereas when he knows of a person by name only, he easily retains it in his memory. As his eyesight becomes weaker with age, his power of remembering names increases. Similar observations have been made by Brown-Sequard.

— According to the *Siglio Medico* a local practitioner at the village of Benimamet in Valencia (Spain) was recently the victim of a brutal outrage of a somewhat novel character. He was called to a person whom he declared to be suffering from cholera, whereupon the family obliged him by main force to swallow the remedies he had prescribed, under the impression that the spread of the disease was directly due to the doctors.

— The effect of thunder-storms in turning milk sour has lately been investigated by an Italian *savant*, Professor G. Tolomei, who finds that the passage of an electric current directly through the milk not only does not hasten, but actually delays acidulation, milk so treated not becoming sour until from the sixth to the ninth day, whereas milk not so electrified became markedly acid on the third day. The souring he attributed to ozone generated by the passage of the electricity through the air. The first observation, namely, the retardation of souring by the passage of a current through the milk — may be a point of practical importance to milk-traders.

NEW ENGLAND.

— The Massachusetts Home for Intemperate Women has recently celebrated the opening of its new build-

ing in Longwood. This very deserving institution was founded twelve years ago by Mrs. Charpiot, the present superintendent, under whose admirable care, and supported by an excellent board of trustees, it has taken charge of a large number of intemperate women, of whom fifty per cent. have been wholly reformed. The new building has been erected at a cost of about sixty thousand dollars, of which over twenty thousand still remain to be subscribed.

— The inhabitants of Marlborough, Framingham and Brockton, Mass., have taken steps towards the erection of hospitals in their cities. A city hospital will also probably soon be built at Bangor, Me.

— The year ending September 30, 1890, was a successful one in the routine work of the Maine General Hospital, and completed the sixteenth year of this charity. The number of patients admitted was 577, of whom 137 paid nothing. The hospital has suffered from lack of room, but new wards are now being constructed.

— The catalogue of a bogus medical college has fallen into the hands of a daily paper, which has attempted an investigation. It is called the Union Medical Institute, and is situated in a small Vermont town. It is not incorporated and owns no building. The Faculty seems to consist of a very mixed company, containing among others a telegraph operator, a newspaper reporter, and some doctors of doubtful title living several hundred miles away.

— A paper entitled "The First Post-Mortem Performed in New England," was read by its author, C. J. Hoadley, librarian at the capitol, before the Hartford (Conn.) Medical Society. It described the post-mortem appearances found on the body of a child eight years of age, Elizabeth Kelly by name, who died in March, 1662. The child evidently died of some acute disease, but her death was ascribed to the malignant influences of witchcraft. The accused gude wife Ayers and her husband had to fly from their home, lest they be made to suffer the penalty of the charge, which was hanging. They left behind them a child, who became the ancestor of one of the present families of Hartford.

NEW YORK.

— Giovanni Succi, who is reputed to have fasted forty days in London, has just entered upon what he announces will be a forty-five days' fast. On the evening of November 5th, he took his last meal, and after this he weighed 147½ pounds. During his fast he proposes to take all the water that he wants and to smoke occasionally. He will also take twenty or thirty drops of an anodyne mixture, when it is required, to allay pains in the stomach. He sleeps whenever he feels inclined, and at other times engages in reading, conversation and billiards, and even in such active exercises as fencing and boxing. At the time he commenced his fast his chest, abdominal and limb measurements were taken by a committee of physi-

cians consisting of Drs. G. B. Du Moise, F. H. Ingram, H. V. Wildman, Hugh Hagan and E. Gail-
lard Mason, who are to have the general supervision
of the fast, assisted by a number of students from
Bellevue Hospital Medical College. The second day
of his fast found him very nervous and excitable, but
otherwise in excellent condition. During the day he
drank fifteen ounces of water, and smoked two cigars.
At 10 A. M. his weight was 139 $\frac{1}{4}$ pounds, and at 5.15
P. M., 138 $\frac{3}{4}$ pounds. At 4 P. M. his temperature was
98.9°, pulse 78, respiration 23, tongue clear and steady
and general condition good.

— In January last the Attorney General began an action to dissolve the Woman's Hospital of Brooklyn, on the ground that Drs. Mary A. Dixon Jones and Charles H. D. Jones, with the other trustees, had obtained control of the institution for purposes other than those designated by its charter. The defendants demurred to the complaint, but a decision has now been handed down by Justice Barnard, in which he overrules the demurser and grants judgment in favor of the people; annulling the incorporation and enjoining the defendants from exercising any of the privileges thereof.

Miscellany.

CHANGES IN THE TARIFF ON DRUGS.

A TABLE of the changes made in the rates of duties on drugs, chemicals, etc., by the McKinley Tariff Bill is given in the *Druggists' Circular* for November.

The following have been taken from the free list and now pay duty: Sulphuric acid, poppy-seed oil, Italian sage. The duties have been increased on bay rum, licorice juice, prepared opium, phosphorus, sumac, sugar of milk, mercury, gelatin and some others where there has been a change from ad valorem to specific duties. The following have been added to the free list: Beeswax, crude opium (containing nine per cent, and over of morphine), chlorate of potash and spirits of turpentine. The duties have been decreased on several drugs, among them tannic acid, chloroform, ether, iodoform, iodine, magnesia, morphine, strychnine and sulphur.

The changes made in the rates of duty on drugs by the new tariff have as yet produced no great effect upon market values. Of these, the most marked is the decline in the price of opium, as the result of the remission of the duty of one dollar per pound. The tariff on morphine has been reduced fifty cents per ounce. The increase in the duty on peppermint oil effectually bars the Japanese product from this market. The rate of duty on quicksilver is increased, and the price of the article is correspondingly higher.

A rather peculiar result of the new law is manifested in the case of chloral hydrate, because of a change in the wording of the clause relating to alcoholic preparations. The new law exacts a duty of fifty per cent. on articles in the production of which alcohol is used, as well as on ordinary alcoholic preparations. Heretofore chloral hydrate was classed with unenumerated chemical preparations, and paid a duty

of twenty-five per cent. The collector of customs at New York assessed duty at the rate of fifty per cent. on a recent importation of chloral, as an article in the production of which alcohol is used.

HARDENING OF SECTIONS OF THE SPINAL CORD BY ELECTRICITY.

MINOR has discovered (*Neurologisches Centralblatt*, No. 10, 1890) that sections of the spinal cord may be hardened by soaking them for a short time in a solution of bichromate of potash and then passing through them a current of galvanic electricity for a few days. The specimen becomes well hardened on that end which is placed against the positive pole, while the negative end becomes swollen and softened. Microscopical sections from this hardened tissue are as good as can be obtained by soaking in the bichromate solution for two or three months.

CURETTING THE SOFT CHANCRE.

PETERSEN¹ has for some time treated non-syphilitic ulcers of the penis by curetting with a sharp spoon. A subcutaneous injection of cocaine makes it possible to do it thoroughly without pain. The wound thus obtained must be treated antiseptically. By this process the author finds that the length of time required for complete cicatrization is much reduced, the average number of days in three hundred cases being less than ten.

CALOMEL PLASTER FOR SYPHILIS.

A NEW method of treating syphilis by mercury is described by Quinquaud. A plaster about four inches square, containing from fifteen to twenty grains of calomel, is applied to the skin in the region of the spleen, and changed once a week. The plaster is made by mixing ten parts of calomel with three of castor oil and thirty of diachylon ointment and spreading on cloth. The author has had very good results with this treatment in cases which did not yield readily to other methods. No bad results except a slight soreness of the gums have been observed. A large and unvarying amount of mercury is kept in the circulation by this method of application.—*Wiener klin. Wochenschrift*, October 16, 1890.

INTESTINAL ANTISEPSIS IN TYPHOID FEVER.

THE following is the treatment recommended by Professor Teissier of Lyons (*Lyon Médicale*, September 7, 1890):

- (1) Morning and evening a capsule of seven grains of alpha-naphthol, with salicylate of bismuth.
- (2) Sponge once in twenty-four hours.
- (3) To restore the action of the kidneys after the mid-day sponging a rectal injection is given of one drachm of the extract of cinchona and eight to fifteen grains of the sulphate of quinine dissolved in sulphate of valerian.

¹ *Monatsschrift für prakt. Dermatol.*, September, 1890.

(4) The diet is restricted to Bordeaux wine, milk and broth.

The author states that he has employed this treatment in fifteen cases of typhoid fever, some of which were of exceptional severity, one case only dying, due to suppurative nephritis occurring at the close of the disease. In almost all of these cases complete antisepsis was realized about the fourth day of the treatment, this being recognized by the green tint of the urine. The temperature depressed progressively, the albuminuria disappeared, the spleen regained its normal volume, and the tongue became moist, and lost its furred condition.

After a regular fall of temperature there then occurred a series of marked thermic oscillations, lasting from four to eight days, the patient then passing to the stage of convalescence, a stage of the disease which was remarkably short. He further adds, that through all the duration of the treatment the typhoid aspect was wanting.—*Therapeutic Gazette*, October 15, 1890.

PEROXIDE OF HYDROGEN AS A DISINFECTANT OF WATER.

DR. ALTEHOEFER¹ after giving references to the literature of the subject, gives his own researches on the disinfective power of peroxide of hydrogen dissolved in water. He finds that the addition of one part to a thousand to ordinary drinking water, to drinking water containing sewage, or to water containing typhoid bacillus or cholera bacillus, is quite sufficient to destroy the various saprophytic and pathogenic organisms contained under these conditions, if it is obtained perfectly fresh and kept in good condition, and if it is allowed to act for a period of twenty-four hours. It is specially valuable for the disinfection of drinking water, because it does not affect the taste, does not alter the color, and in the proportion mentioned is perfectly innocuous. As regards cost, he calculates that sufficient drinking water—say ten litres—for a family may be sterilized by means of peroxide of hydrogen at a cost of about five cents per diem.—*British Medical Journal*, October 25, 1890.

MUMPS.

BORDAS² took the opportunity offered by an epidemic of mumps in a regiment to make a careful study of the disease. Metastatic orchitis was very common, especially in those cases in which the parotitis was light, and in those who left the bed too soon. The author succeeded, in each case in which it was tried, in finding and making a culture of the bacillus, already described by Dab Harrin and Capitan. The bacilli are killed by corrosive sublimate and by boracic acid, but not by iodoform. The spores are not injured by drying. The source of infection is undoubtedly the saliva, which dries on the lips and is rubbed off either by kissing or onto towels and bed-clothes, from which it reaches the mouth and through Steno's duct the parotid gland. To prevent this infection a mouth-wash of boracic acid is recommended, and thorough sterilization of towels, etc.

¹ Centralbl. f. Bakter. und Parasitenk., July 25, 1890.

² Centralblatt für Klin. Med., No. 43, 1890.

BREAKING THE OPIUM HABIT.

In a paper on this subject in *Le Bulletin Medical*, October 15, 1890, Ball points out the objections to a sudden stopping of a large amount of opium. The principal dangers are delirium tremens, mania, sudden collapse and uncontrollable sexual desire. In gradually diminishing the amount, several drugs have been recommended to supply the stimulation which the patient craves. The author has had very good results with the sulphate of sparteine. When the daily amount of morphine is reduced to a grain and a half, a small amount of sparteine is added, which is increased as the morphine is decreased until the patient gets two grains of the former a day, and none of the latter. The sparteine is kept up for some time, and then gradually discontinued. It may be given hypodermically, mixed with the morphine.

STERILITY.

A FEW months ago a French author told a story of a married pair who consulted him, as they wished to have children. They had just come from the office of a well-known Parisian physician who had advised that the wife's uterus be curedtted. A thorough examination revealed nothing wrong with the woman, but the husband's spermatic fluid was found to be entirely without spermatozoa, due to a previous double epididymitis. That the common opinion, that failure to produce children is probably due to some defect in the wife, is not justified, is shown by Lier and Asche,¹ who found that out of 227 cases of sterility 132 could be credited to the man, most of them due to previous gonorrhœa. Where the man was at fault only six per cent recovered their power of reproduction by treatment, whereas twenty-five per cent of the women subsequently became pregnant. The authors emphasize the importance of examination of the spermatic fluid in all supposed cases of sterility.

FAUCIAL AND PHARYNGEAL TENESMUS.

MR. LENNOX BROWNE proposes to apply the term "tenesmus" to the fauces and pharynx in those cases in which there is a continual inclination to void or to swallow an imaginary foreign body, accompanied by more or less cough, straining, and pain, either after or independent of functional exercise of the voice, with expectoration or welling up of small quantities of mucus, and occasionally, more especially in rising from sleep, by the discharge of small quantities of blood. Tenesmus would, in fact, not only apply to the condition now known as "globus hystericus," but would embrace all those numerous and various subjective symptoms which occur in the throat, and have not until recently been acknowledged to have other than a neurotic basis.

The causes are mainly three: (1) Hypertrophy of the lymphoid tissue at the base of the tongue and the lingual tonsil; (2) Varix of the vessels in the same situation, the two constituting a condition called by him "throat piles"; and (3) A congestion, fulness, sometimes even obvious enlargement of the thyroid gland. Functionally, the physical conditions causing

¹ Zeitschr. für Geburtshilfe und Gynäkol. xviii.

throat tenesmus are mainly due to over-use, or wrong use of the voice, and to bolting the food, but the underlying constitutional causes are many, the principal one being a general varicose diathesis, shown by the occurrence of rectal piles, varicocele, varix of lower limbs and cold feet. It is more frequent in women than men, and often appears at the menopause. In many cases there is concurrent relaxation of the uvula, removal of which fails to cure the patient unless the other conditions are recognized and concurrently treated. It is also seen in connection with, and, as was believed, as a result of nasal stenosis. Treatment consists in destruction by electric cautery of the overgrown tissue and enlarged veins, with correction of the faults of health and of local function. Occasionally the hypertrophies are of sufficient size to enable them to be removed by a snare. Astringents or iodine fail to give permanent relief in any but the mildest cases. — *Journal of Laryngology and Rhinology*, October, 1890.

STRYCHNINE AS AN ANTITETANIC VACCINE.

THE French medical journals have given a good deal of attention to the investigations of Dr. Peyraud,¹ who gives an account of some experiments carried out with soil taken from a covered-in enclosure in which wine was stored, and in which no horses had entered within the memory of the inhabitants, and which had not in any way been cultivated since the store was erected. Dust from forage when inoculated induces tetanus in fifty per cent. of the animals experimented on, but soil taken from this wine store induced tetanus in one hundred per cent., five out of every six of the animals inoculated dying. Having obtained this virulent material, Dr. Peyraud carried out a series of experiments to test his theory that strychnine, which produces many of the symptoms of tetanus, would probably act as a vaccine; he, therefore, injected a half milligramme of strychnine in solution every day for five days. Ten rabbits so vaccinated and four test rabbits were inoculated with a small portion of tissue from near the wound in an animal in which tetanus had been produced experimentally, and the wounds were carefully closed. Of the fourteen animals the four test rabbits, and three of those vaccinated, died. In a second series of experiments, seven prepared rabbits and fourteen test rabbits were inoculated with tetanic virus six days after the strychnine inoculation had been stopped; thirteen of the test animals and four of the prepared animals died.

MM. Verneuil, Trasbot, and Nocard were appointed as a committee to test the accuracy of such an important statement, but unfortunately they were unable to obtain as good results as Dr. Peyraud had recorded. They found that the soil was undoubtedly capable of producing tetanus in a certain proportion of rabbits, but in their hands this proportion was only eleven per cent. After experiments to test the preventive inoculation of strychnine, the reporters conclude that although an important fact has been demonstrated by M. Peyraud as regards the presence of the tetanus bacillus in non-cultivated and undisturbed soil, his experiments on preventive inoculation with strychnine against tetanus, are vitiated by some important fallacy, as the committee were unable to obtain the same results. — *British Medical Journal*, October 25, 1890.

¹ Bull. de l'Acad. de Médecine, No. 40, October 7, 1890.

THE BRAINS OF FEEBLE-MINDED CHILDREN.

CONCLUSIONS based upon a series of post-mortem examinations, including microscopic study, of one hundred brains of feeble-minded children, are given by Dr. A. W. Wilmarth, in the *Alienist and Neurologist*, October, 1890. The children were taken from all grades in the Pennsylvania Institution for Feeble-Minded Children.

A comparatively large number were cases of actual cerebral disease, in contrast with the relatively small number where imperfect development seemed the causative agent of the mental defect. With this fact, we see a corresponding improbability of a large majority of these cases ever attaining a full mental development. That a large majority of them can be greatly improved, we have daily evidence in our schools. Children inheriting inactive brains from parents below the usual average of intelligence, without history of infantile disease or epilepsy, seem the most promising of general and permanent improvement. The brain diseases of infancy, on the other hand, are peculiarly destructive, and not only leave a permanent injury to the brain, preventing its growth and development, but are liable, from the irritation they leave, to kindle the epileptic habit with its destructive effects. Realizing these facts, the physician should be more cautious in giving the customary diagnosis of "Arrested development that special training will remove," thereby arousing hopes in the minds of the parents that can only result in disappointment.

TRAUMATIC TETANUS: RECOVERY.

DR. A. W. TANCIL¹ describes a case of traumatic tetanus occurring in a colored boy, fourteen years of age, who, about the last week in July, stuck a nail into his foot. The wound healed under domestic treatment, but about one week subsequent thereto, while playing, it broke out again, which caused quite a hemorrhage, but it got well and attracted no further attention. Symptoms of tetanus first appeared on August 18th, and three days later became intense. He was then put upon bromidia, in large doses, a teaspoonful every two hours more or less, according to the symptoms. Four days later he was much better; and the bromidia was continued in full doses at lengthening intervals until September 26th, the total amount given being more than fifteen ounces.

In commenting on the case, Dr. Robert Reyburn, who saw the patient in consultation, said that it was a typical example of the more chronic variety of traumatic tetanus, and is interesting because it illustrates very well the correct method of treatment. The reflex action of the great nervous centres, and more especially the spinal cord, is so immensely exaggerated in tetanus, that the slightest noise, the exposing the patient to a current of cold air, or even a slight movement of the patient, may develop a fatal spasm either of muscles of respiration, or some other of the group of muscles which control functions necessary to life. Anæsthetics, while they for a time seem to modify and control the spasmodic contractions of the muscles, have, in his experience, never effected a cure. The only treatment that he has found to be reasonably successful is morphia given in large doses and in combination with bromide of potassium, but in order to do any good with the remedy it must be given

¹ Journal American Medical Association, July 19, 1890.

in double or triple the ordinary doses and continuously; in other words, you must keep the patient in a condition of semi-narcotism all the time, for days or weeks, if necessary.

In the treatment of the above case it was found absolutely necessary to disregard the ordinary rules of dosage and to give with a liberal hand the bromidia in quantities sufficiently large to keep the muscles relaxed. Several times during the early stages of the treatment of the case, the attempt was made to diminish the doses of the powerful agents used, but the aggravation of the trismus and the painful and powerful contractions of the muscles of the abdomen and extremities compelled a return to the larger doses. Another most important point in the management of these cases is to insist upon the most absolute rest and quiet. The patient is

to be placed in the darkest and most secluded corner of the house, away from noise and secure from the well-meant but often fatal kindness of visitors and friends.

Correspondence.

CONGRESS OF HYGIENE AND DEMOGRAPHY.

BOSTON, November 10, 1890.

MR. EDITOR:—The last meeting of the International Congress of Hygiene and Demography was in Paris, 1889. That held in Vienna, 1887, was the fifth of the series.

I write to correct the statement in Dr. J. S. Billings's communication, November 6th, page 454.

Respectfully, H. J. B.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 1, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	602	202	13.43	13.60	3.10	2.89	1.87
Chicago	1,100,000	282	110	10.85	8.40	5.60	—	3.50
Philadelphia	1,061,277	328	106	14.31	12.49	7.29	2.16	1.89
Brooklyn	852,467	362	126	14.84	14.50	6.44	.84	1.96
St. Louis	550,000	123	42	15.39	12.15	5.67	6.48	2.43
Baltimore	500,343	151	37	10.66	13.86	4.62	.66	3.30
Boston	446,507	176	51	10.08	18.48	3.36	3.92	2.60
Cincinnati	325,000	117	—	17.85	16.15	11.96	1.70	4.45
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	91	27	16.48	18.68	7.69	2.19	5.49
Nashville	68,513	35	14	14.28	14.28	—	11.42	—
Charleston	60,145	33	12	15.15	12.12	—	6.06	9.09
Portland	42,000	10	0	10.00	30.00	—	—	10.00
Worcester	34,536	14	4	7.14	14.28	—	7.14	—
Lowell	77,605	33	13	30.30	12.12	—	6.06	18.18
Fall River	74,351	31	9	12.92	12.92	3.23	—	3.23
Cambridge	69,837	14	1	7.14	28.06	—	—	—
Lynn	55,684	19	3	10.52	10.52	5.26	—	—
Lawrence	44,559	14	5	14.28	7.14	—	14.28	—
Springfield	44,164	15	5	13.33	—	—	13.33	—
New Bedford	40,505	14	3	—	14.28	—	—	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	11	5	—	9.09	—	—	—
Chelsea	27,850	9	0	11.11	22.22	—	—	11.11
Haverhill	27,322	8	3	—	12.50	—	—	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	2	0	—	—	—	—	—
Newton	24,375	—	—	—	—	—	—	—
Malden	22,984	6	1	—	—	—	—	—
Fitchburg	22,007	7	3	14.28	28.56	14.28	—	—
Gloucester	21,262	7	2	—	—	—	—	—
Waltham	18,523	5	0	40.00	—	20.00	—	—
Pittsfield	17,252	5	2	80.00	—	60.00	—	20.00
Quincy	16,711	2	0	—	—	—	—	—
Northampton	14,341	—	—	—	—	—	—	—
Newburyport	13,914	7	1	28.56	—	14.28	—	14.28
Marlborough	13,788	—	0	—	—	—	—	—

Deaths reported 2,535; under five years of age 787: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 351, consumption 347, acute lung diseases 287, diphtheria and croup 148, typhoid fever 72, diarrhoeal diseases 61, scarlet fever 26, whooping-cough 16, measles 12, malarial fever 9, cerebro-spinal meningitis 4.

From scarlet fever, Brooklyn 10, Philadelphia 7, New York 3, Chicago 2, St. Louis, Baltimore, Fall River and Salem 1 each. From whooping-cough, New York 6, Philadelphia and Brooklyn 4 each, Lowell, Lynn and Waltham 1 each. From measles, New York 7, Chicago 2, Brooklyn, Nashville and Lowell 1 each. From malarial fever, New York and Brooklyn 3 each. Baltimore 2, Fall River 1. From cerebro-spinal meningitis, New York, Chicago, Brooklyn and Washington 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending October 18th, the death-rate was 20.8. Deaths reported 3,870: Acute diseases of the respiratory organs (London) 340, diarrhoea 285,

measles 121, scarlet fever 65, diphtheria 61, whooping-cough 58, fever 56.

The death-rates ranged from 12.3 in Nottingham to 28.0 in Manchester, Birmingham 16.7, Bradford 22.5, Hull 18.0, Leeds 19.1, Leicester 19.9, Liverpool 22.0, London 20.5, Norwich 20.2, Oldham 22.4, Portsmouth 15.7, Sheffield 24.9, Sunderland 23.2, In Edinburgh 19.0, Glasgow 22.0, Dublin 21.3.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending October 29th, the death-rate was 20.6. Deaths reported 3,832: acute diseases of the respiratory organs (London), 417, diarrhoea 206, measles 151, scarlet fever 90, whooping-cough 54, diphtheria 46, fever 45.

The death-rates ranged from 13.3 in Huddersfield to 29.9 in Cardiff, Birkenhead 28.3, Brighton 14.8, Hull 25.4, Leeds 19.1, Leicester 15.2, Liverpool 20.6, London 19.5, Manchester 20.4, Nottingham 18.5, Sheffield 23.2, Sunderland 27.5.

In Edinburgh 17.5, Glasgow 24.4, Dublin 24.5.

The meteorological record for the week ending Nov. 1, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.	Velocity of Wind.	State of Weather.*	Rainfall.			
		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.							
Saturday, Nov. 1, 1890.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	N.	N.E.	9	7	O.	O.	
Sunday...	26	39.64	41.0	38.6	73	81	80.0	N.	N.N.E.	10	21	O.	0.01	
Monday...	27	40.40	41.0	38.0	85	71	78.0	N.	N.N.E.	10	21	O.		
Tuesday...	28	29.51	43.0	46.0	89	68	63.0	W.	S.W.	14	13	O.		
Wednesday...	29	29.48	41.0	49.0	92.0	88	92.0	S.	S.	8	4	O.	0.17	
Thursday...	30	29.65	46.0	51.0	42.0	78	65	71.0	S.W.	S.W.	11	8	O.	
Friday...	31	29.93	46.0	52.0	40.0	92	67	80.0	S.W.	W.	10	7	F.	
Saturday, 1	29.94	42.0	50.0	35.0	79	67	73.0	W.	S.W.	11	14	C.	0.02	
Mean for Week.														

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 1, 1890, TO NOVEMBER 7, 1890.

So much of paragraph 2, Special Orders 208, Adjutant General's Orders, September 5, 1890, as directs First Lieutenant NATHAN S. JARVIS, assistant surgeon, to report for duty at San Carlos, Arizona Territory, is revoked. On the expiration of his present sick leave of absence, Lieutenant Jarvis will report in person to the commanding officer, Fort Bayard, New Mexico, for duty at that station. S. O. 234, Par. 13, A. G. O., October 30, 1890.

First Lieutenant PHILIP G. WALES, assistant surgeon, is relieved from station and further duty at Fort Huachuca, Arizona Territory, and assigned to duty at San Carlos, Arizona Territory, where he is now temporary serving. S. O. 234, Par. 13, A. G. O., October 30, 1890.

Captain WILLIAM J. WAKEMAN, assistant surgeon, is relieved from duty at Fort Bidwell, Cal., to take effect on the final discontinuance of that post, and will then report in person to the commanding officer, Fort Huachuca, Arizona Territory, for duty at that station. S. O. 234, Par. 12, A. G. O., October 30, 1890.

Captain WILLIAM H. ARTHUR, assistant surgeon, is relieved from duty at Fort Bayard, N. Mex., and will report in person to the commanding officer, Fort Grant, Arizona Territory, for duty at that post, relieving First Lieutenant WILLIAM B. BAKER. Captain Arthur, on his arrival at Fort Bayard, will be relieved by Captain Arthur, will report to this city, and report for duty to the commanding officer, Washington Barracks, D. C. S. O. 234, Par. 12, A. G. O., Washington, D. C., October 30, 1890.

Leave of absence for one month is granted Lieutenant-Colonel DALLAS BACHE, surgeon, medical director, Department of the Platte. S. O. 82, Par. 6, Department of the Platte, Omaha, Neb., November 1, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 8, 1890.

J. M. EDGAR, passed assistant surgeon, ordered to the U. S. S. "San Francisco." November 10, 1890.

L. W. SPATLING, assistant surgeon, ordered to the U. S. S. "San Francisco." November 10, 1890.

CHAS. H. WHITE, medical inspector, ordered to the U. S. S. "San Francisco." November 10, 1890.

HORACE B. SCOTT, passed assistant surgeon, placed on the retired list, October 31, 1890.

RICHARD ASHBRIDGE, passed assistant surgeon, surveyed and sent to Hospital, Philadelphia, Pa.

R. M. KENNEDY, assistant surgeon, detached from Navy Yard, League Island, and ordered to U. S. Training-ship "Richmond."

L. W. ATTLEE, assistant surgeon, ordered to the Navy Yard, League Island, Pa.

OBITUARY.

THADDEUS KINGSLY DEWOLF, M.D., M.M.S.S.

Dr. T. M. DeWolf died in Chester, Mass., November 4, 1890, at the age of eighty-nine years. He has been prominent in the town of Chester for sixty years as a physician, post master and justice of the peace.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

MEETING IN MEMORY OF HENRY J. BIGELOW, M.D.

A meeting in memory of the late Dr. Henry J. Bigelow will be held in the Medical Library Building, Boylston Place, by the Boston Society for Medical Improvement, on Wednesday, November 19, 1890, at 4.30 P. M.

Members of the Massachusetts Medical Society are invited to be present.

R. H. FITZ, M.D.
E. H. BRADFORD, M.D. { Committee.
A. T. CABOT, M.D.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, November 19, at 7.45 o'clock.

Dr. G. W. GALVIN: "The Necessity of an Emergency Hospital in the Business District of Boston." Drs. Waterman, George Stedman, T. H. DeBlois, G. H. M. Rowe (Superintendent of Boston City Hospital), J. W. Pratt (Superintendent of Massachusetts General Hospital), Cheever, J. Homans, Gay, M. H. Richardson, Cabot, Burrell and others are expected to take part in the discussion.

Dr. W. F. TEMPLE: "An Unusual Case of Aneurism." Drs. G. M. Garland and Henry Jackson are expected to take part in the discussion.

E. G. CUTLER, M.D., Chairman.

E. N. BLODGETT, M.D., Sec'y., 138 Boylston St.

AMERICAN ACADEMY OF MEDICINE.—The Constitution was altered at the last annual meeting, so as to admit, in addition to those possessing the degrees of A.B. and A.M., those who can present evidence of preparatory liberal education equivalent to the same.

Dr. J. E. Emerson, Detroit, Mich., Chairman of Committee on Eligible Fellows, will forward to any applicant copies of the amended Constitution and By-Laws, list of members, and other information as to the Academy.

RICHARD J. DUNGLISON, Secretary.

814 N. 16th Street, Philadelphia, Pa.

BOOKS AND PAMPHLETS RECEIVED.

The Aladdin Oven: What It Does and How It Does It. Invented and Patented by Edward Atkinson. Sold by Kenrick Brothers, Brookline, Mass.

A Contribution to the Pathological Anatomy of Chorea, with the Report of a Case. By Charles L. Dana, M.D., New York, Visiting Physician to Bellevue Hospital.

A Study of the Anesthesia of Hysteria. By Charles L. Dana, M.D., Professor of Diseases of the Nervous System in the New York Post-Graduate Medical School. Reprint. 1890.

A Manual and Atlas of Medical Ophthalmoscopy. By W. R. Gowers, M.D., F.R.S., etc. Third edition. Edited with the assistance of Marcus Gunn, M.B., F.R.C.S., etc. Philadelphia: P. Blakiston, Son & Co. 1890.

A Practical Treatise on Impotence, Sterility and Allied Disorders of the Male Sexual Organs. By Samuel Gross, A.M., M.D., LL.D., etc. Fourth edition. Revised by F. R. Sturgis, M.D. Philadelphia: P. Blakiston, Son & Co. 1890.

Original Articles.**THE CONTINUOUS INHALATION OF OXYGEN
IN CASES OF PNEUMONIA OTHERWISE
FATAL, AND IN OTHER DISEASES.¹**

BY ALBERT N. BLODGETT, M.D., BOSTON.

It is a recognized fact that several of the most common and most fatal maladies to which the practitioner of medicine is called, are fatal on account of interference with the function of respiration. These diseases kill, by either preventing the access of a sufficient amount of respirable air to the lungs, or by diminishing the respiratory area within the lungs. This may be caused by exudation of foreign material, or from closure of the lumen of the respiratory passages through inflammation, or from other causes. It is only within the latest times, that the attention of the practitioner of medicine has been effectually called to the possibility of treating these conditions by the direct employment of oxygen, for the purpose of offering to the impaired respiratory function the means of fulfilling its mission to the animal economy, by extending to it an atmosphere containing a richer supply of this all-important element, and thus enable it to carry on its indispensable duty, though it be forced to do so by means of diminished or diseased respiratory apparatus.

The following paper is not intended to discuss this subject in an exhaustive manner, nor is it intended to enter into any examination of the ways or methods in which oxygen acts upon the tissues of the body, but its sole aim is to call the attention of the profession to the great benefit which we may secure for our patients from the use of oxygen in the treatment of disease, and, to attract the notice of those enjoying large opportunities to its use, in the hope that their undisputed authority may indorse what, to my mind, constitutes a great advance in the treatment of some of our most intractable and most fatal diseases. The subject may be appropriately introduced by the narration of the following case:

Mrs. H. W., is a lady of nervous temperament, rather strong-willed, and has been married about six months, being at the present time about thirty-seven years of age. She has always been free from serious disease. She has had many harassing scenes in her family life previous to her marriage, and to some degree since that event. Is rather unusually strong and active in general.

On February 14, 1890, late in the day, I was called in see this lady, on account of a severe cough, which had been harassing her unremittingly for some days. The patient was found lying upon the outside of the bed, and very much flushed. The following symptoms were ascertained to be present. The cough, of which I had been told, was almost constant, and each paroxysm was accompanied by pain, as expressed by groans and exclamations, the distress being referred to an area covering the location of the lower lobe of the right lung. Over this area there was dulness, increasing to flatness as the lower border of the lung was reached, the respiratory efforts were painful, and exaggerated; there was bronchial respiration over a large part of the affected area, and crepitant rales toward the upper portion of the same, with coarse, dry rales over portions of the chest adjacent. The temperature

was elevated, the restless condition of the patient not admitting a positive record of the degree of fever, but the thermometer showed 101° F., taken under the tongue. The pulse was somewhat variable, but averaged from 120 to 130 in the minute, of fair strength and volume. The face was mildly cyanosed, and the breathing though fairly free, was insufficient, the respirations being twenty-four in the minute. Two days before, there had been a chill, or rather a chilly sensation of considerable duration, which had been followed by heat and headache, which has since persisted. There was almost complete anorexia, due to nausea. The bowel had been thoroughly evacuated of its contents by domestic purgation. The skin was hot and dry, the color of the surface mildly dusky, the eyes bright and staring, the tongue dry and rough, with many superficial fissures. The teeth were moderately covered with adhesive gummy material. Herpes labialis present. The lips were dry and parched, though not fissured or cracked. There was no expectoration, though there was the constant desire to get something up, which caused, to some extent, the troublesome cough. There was constant pain in the right side, referred to a point of greatest intensity about the region of the nipple, from which it radiated in various directions, and extended around the side. There was no tenderness or other disturbance of the digestive organs, except the symptomatic phenomena above mentioned.

An anodyne mixture was given to relieve the intensity of the cough, and to aid in expectoration; and quinine, with a little wine, was ordered four times daily. Liquid diet was prescribed, and the patient was enjoined to remain quietly in bed, in the hope that the morbid process would remain confined to the portion of the lung already affected.

On the next day, February 15th, the patient was found vastly more comfortable. Cough was greatly relieved, and the night had been restful and she was much refreshed. Treatment was not changed, and the directions before given were continued.

February 16th. I was hastily summoned early in the day, and found the patient in a most alarming condition. There was great oppression in breathing, the surface was everywhere deeply cyanosed, and the respiration was hurried and difficult. The cough had again become distressing; there was a constant feeling of impending suffocation; and the patient was restless, and agitated by the apprehension of sudden dissolution. The face was of a deeply livid color, conjunctive were injected and dusky, and the tongue was heavily coated with a brownish layer of offensive character. I found that on the previous day, she had been out of bed, had attempted to arrange the room, had been sitting at the window, and had been chilled while thus engaged. During the night she had become rapidly worse, so that her condition had awakened alarm in those about her. The area of dulness was found to be more extensive, now including almost the whole of the right lung, and the lower portion of the left, the dulness on this side reaching as high as the nipple. The process in the base of the right lung seemed to be in about the same condition as before described, and there was no noticeable tendency toward resolution. Bronchial respiration was every where detected in the territory of dulness or flatness, and abundant fine crepitation was heard. Temperature was 103° F., respiration 30, pulse 120.

Milk was directed in two-ounce draughts every two

¹ Read before the Boston Society for Medical Observation, October 6, 1890.

hours, and digitalis was ordered, as the circulation was evidently but imperfectly carried on. Tincture of nux vomica in five-drop doses was ordered every four hours, in the hope that it might act to stimulate the respiratory powers. Brandy in moderate amount was also advised, and a competent nurse was obtained, to whose efficiency and care are no doubt attributable the successful issue of what was during many hours by far the most desperate condition which I have seen end in recovery. In the afternoon the temperature was 102.6° F., the pulse 120, and the respiration 35. The patient was very restless and much harassed by a short, dry cough. It was difficult to persuade her to take food. At 7 p. m., there were signs of collapse, the pulse became very weak, the respiration sighing in character, the extremities cold, and the intelligence clouded. A mustard plaster was applied to the chest with benefit, and digitalis and brandy given with a little hot milk. After an hour the signs of extreme peril were relieved to some degree, and the patient turned on the side and slept for twenty minutes. The night on the whole was quiet but not restful, the patient having several paroxysms of coughing, in each of which the surface became livid, and the signs of asphyxia again appeared.

February 17th, at 6 a. m., pulse was 134, respiration 40, temperature 99.8° . The cheeks were quite livid, but there was no evident great distress in breathing. A considerable amount of urine was withdrawn by catheter. At 11 a. m., temperature 100.8° , pulse 120, respiration 52 and somewhat labored. Mustard was again applied to the chest, with some improvement in the respiration; and the patient slept at intervals. At 6 p. m., temperature 102.4° , pulse 126, respiration 45. The patient was now showing unmistakable signs of exhaustion, and the feebleness of the heart's action was apparent. Consultation was suggested, but declined.

At this time I advised the use of oxygen gas, in the hope to increase the respiratory function by furnishing the limited lung-area with an augmented amount of oxygen, so that the condition of the circulation might be improved, and possibly the constant apprehension of asphyxia be relieved. I cannot say that I looked for any permanent good from it, but I hoped to at least gain for the patient the comfort of euthanasia. The gas employed was diluted with ten per cent. of nitrous oxide, and in this form caused no appreciable sensation of discomfort to the patient. The amount given was limited to a few gallons, the exact quantity not being ascertained, owing to a leak in the holder, but the effect was soon noticeable in the appearance of the patient, who became much more quiet, and was relieved to a great degree of the embarrassment in respiration. The face soon became less dusky, the conjunctive clearer; the intelligence of the patient was much benefited, and she expressed herself as feeling better. The oxygen was now withdrawn, and the patient fell into a gentle sleep.

February 18th, at 3 a. m., temperature 97.8° , pulse 122, respiration 52. Face was again very dusky, and patient wandering and restless. Oxygen was again administered, in the manner described above, and again the patient seemed to derive benefit from its use.

At eight o'clock the extremities were cold, the respiration labored, the mind wandering, the body was covered with a clammy sweat, the skin was relaxed, the eyes dull, and every symptom of rapidly approaching dissolu-

tion was stamped upon the case. At this time I directed the continuous employment of oxygen, as the only means of prolonging life, and averting the paroxysms of distress which recurred at intervals. The gas was conveyed from the tank in which it is supplied through a wash-bottle directly to the mouth of the patient, and a constant stream of gas was flowing through the tube all the time, so that with each of the rapid respirations the patient was obtaining a constant increased amount of oxygen. This method of administration, of which I have thus far found no account in the means of information at my command, seemed to afford considerable relief in a short time, and after watching the case for an hour, I left, giving directions to continue the gas.

At 11 o'clock the respirations were higher than at any time heretofore, being 64 in the minute, and the pulse 144; but the patient was not only conscious, but was not particularly uncomfortable, and certainly suffered no such distress as was the case with a much lower frequency of respiration, only a few hours before.

At 6 p. m., the pulse was 120, respiration 56, temperature 98.2° , and the condition of the patient was, on the whole, more satisfactory. The patient took food, and the cough had become less harassing, and there was a noticeable loosening, and the indication of approaching expectoration.

February 19th, 7 a. m., pulse 160, respiration 60, temperature 97.1° . The night was rather restless, the patient was delirious, the extremities became very cool, and were livid in color, the veins of the neck were turgid, and the appearance less favorable, but this condition improved with the morning, and she became quiet and again seemed better.

She continued in this way during the day, until the afternoon visit at 5 o'clock, when the supply of oxygen unexpectedly gave out. A new supply was at once ordered, but the patient sank rapidly, and she seemed to be dying. She passed into a state of collapse, the pulse became imperceptible, the color was more livid than at any previous time, the respirations became shallow, and were reduced to sixteen in the minute, the eyes were glazed, clammy sweat burst forth over the entire body, and every sign of immediate dissolution was present. A subcutaneous injection of pure brandy was at once given, which was followed by a temporary improvement in the pulse and respiration, but this soon subsided; a second injection of the same character was given, with a less perceptible effect, and at the time when it seemed that the patient was irrecoverably lost, the oxygen arrived. The gas was at once conveyed into the patient's mouth, and mechanical aid was given to assist the respiratory movements. For a time there was no appreciable benefit from the gas, but gradually the color of the surface improved, the respiration was less embarrassed, the patient could swallow, and the immediate symptoms were again relieved. The patient was, however, restless, the extremities were cold, and efforts to revive the temperature were only partially successful. The pulse remained at 140 most of the night, and the temperature was subnormal. The respirations fluctuated to some extent, but remained between 44 and 58 to the minute.

February 20th. At 7 a. m. the temperature was 96.8° , the pulse 120, and the respiration was irregular, on account of the violent efforts of the patient to get out of bed, etc. At noon, pulse was 134, respiration 56. Strychnia (one-sixtieth of a grain) was ordered

every four hours, in the hope to invigorate the respiratory efforts. In the afternoon the temperature was 99.2° .

February 21st. The temperature, although falling to 96.8° in the morning, recovered to 98.8° , pulse 120, and the general condition of the patient was satisfactory. She was able to sleep at intervals without the use of anodynes, and there was a gradual improvement in the strength. Enemata were employed to relieve the bowel, followed by considerable exhaustion. The respiration continued about 50 in the minute, but the condition of the patient was on the whole much more satisfactory. At night the respiration again rose to 60 in the minute, but there was no distress. There was now considerable expectoration, and later in the day the bowels and bladder were moved spontaneously for the first time during the severe phase of the illness.

February 22d. The breathing was less labored, and the patient, in this way, more comfortable than at any time during her sickness. Temperature in the morning normal, in the afternoon 100° . At 8 P. M. pulse was 100, respiration 32. The bowels acted naturally.

February 23d, 8 A. M., temperature 98.2° , pulse 94, respiration 36. Passed a fair, though not a very restful night. Began to raise large masses of tenacious matter from the lungs. At 3 P. M., the oxygen was discontinued *after continuous administration for a period of 106 hours*.

February 24th, at 7 A. M., temperature 99° , pulse 92, respiration 30. At 6 P. M., temperature 97.6° , pulse 96, respiration 35, and the patient was perspiring freely. She passed a good night, and awoke refreshed and strengthened.

February 25th, 7 P. M., temperature 98.8° , pulse 96, respiration 28.

From this time there was an uninterrupted convalescence from the pulmonary disease, though the progress was not rapid, and was delayed by neuralgic attacks in various parts of the body, which, at length, however, subsided. There was prolonged mental enfeeblement, caused perhaps by the extreme gravity of the disease, which has since gradually cleared up, so that the patient, in all respects, is, at present, apparently as well in both body and mind as before her sickness.

It will be noticed that coincident with the continuous administration of the oxygen there was a remarkable and enormous fall of the temperature. The thermometer registered on the afternoon of February 17th, 102.5° . At this time the patient sank into a state of profound collapse, and the thermometer registered at the next visit, 97.4° , a fall of 5.1° within a very short time. The condition of the patient was, during many succeeding hours one of the greatest gravity, there was little tendency to rally, and for several days the morning temperature was subnormal.

On one occasion, with subnormal temperature there was associated a pulse of 160 in the minute, and a respiration of 56. Upon two occasions during the severity of the case, the lines of temperature and pulse cross each other, that is, a rising pulse line is found associated with a declining temperature, a phenomenon which has been believed to be invariably indicative of a lethal termination of the case.

I account for these various unusual symptoms upon the ground of the extreme exhaustion of the patient, and the great prostration of all the vital processes.

I have thus, somewhat at length, detailed this case

in the hope that I might bring to my aid the experience of other and abler men in the use of the means here employed for combatting the asphyxia accompanying pneumonia, and, which I have no doubt, is equally applicable to other diseases which kill by reducing the respiratory capacity of the lungs, or by preventing the elimination of noxious products of respiration. I have been able to find very little in the literature upon this subject, and have never seen or heard of the use of oxygen in any other, than rather an experimental and dilettante manner in the treatment of disease. When I directed the continuous administration of the gas, I did so under the positive conviction that the patient was irrevocably doomed, and the best result that I looked for, was simply relief to the sensation of suffocation, and not any curative action. The record then made in my note-book, February 18th, at 8 A. M. is "in articulo mortis." At this time I had only employed the gas in the manner ordinarily directed, that is, two or three gallons at a time, several times daily. I now directed its use without cessation, and to my great surprise, the patient not only obtained the relief desired, but was enabled to carry on the function of respiration.

The amount of gas employed was not far from two hundred gallons in twenty-four hours. The dealer who supplied the gas was astonished at the amount required, and, thinking to do me a service, sent me a cautionary message, implying that no human being could possibly stand so great an amount of oxygen, on account of the dangerous degree of stimulation to the system and the increased combustion of tissue. I have no doubt that the warning might be appropriate in any ordinary or occasional use of the gas, but in this case, the temporary absence of the oxygen was followed by the most alarming symptoms, and it was only with the greatest exertion that the patient was resuscitated. I think that the recovery of the patient from the condition in which she then was, is due entirely and unquestionably to the administration of the gas. Its effect was almost as pronounced and evident as is that of a ligature in hemorrhage.

To my sorrow I have to confess that I am able to recall more than one case of pneumonia which has terminated in death, in which I cannot but think that the timely use of oxygen gas might have been conducive toward a different ending of the disease. I am inclined to think that the judicious employment of this agent will be followed by distinct amelioration of the symptoms, and reduction of the distress in all cases of impending asphyxia. If in this way the strength of the patient may be husbanded, and the blood be maintained in a state of oxidation sufficient to allow the respiratory phenomena to go on, I think that many cases will be found in which the period of greatest danger may be safely tided over, which would otherwise unquestionably be lost.

I have been able to find only very rare and unsatisfactory allusions to the use of oxygen in pneumonia, and what I have found are almost wholly without benefit in forming a conclusion as to the best manner of using this agent, and also in relation to its action. I have only found one allusion to the continuous administration of oxygen, and in this case the gas was conducted into a pail of water, placed by the side of the patient's bed, and the air of the room was fanned toward the patient. I think it may well be questioned how much benefit was derived by the patient from

this uncertain method of administration of the gas, though I believe that in this case the patient happily recovered. I had not seen the report of this case, and it is so unsatisfactory that I should hardly have been inclined to accept it as a safe guide in the use of what was to me an unknown method of administration.

I shall not at this time attempt to analyze the action of oxygen upon the organism, nor the way in which it changes the condition of the patient, but will simply express my conviction that its employment in the laboratory for physiological experiment does not at all indicate its usefulness or its action upon the organism in cases of disease. I feel that in extreme dyspnoea, or in threatened asphyxia, we have in this agent the means of obtaining in many cases a distinct relief of the suffering; and a painless if inevitable death. If more extensive experience should confirm my present conviction, we have in oxygen the means of tiding the system over periods of great exigency in the direction of suffocation; and the chances of recovery in such cases are raised from absolutely nothing, to a very considerable proportion.

In my opinion, the *first* of these propositions would be a sufficient reason for urging the use of any appropriate agent; and the *last* makes its use in proper cases imperative. It is none the less indicated, and acts in these cases in exactly the same way as in cases of poisoning from illuminating gas, in drowning (submersion), in carbon-dioxide poisoning, and in other conditions which will present themselves to the mind.

A somewhat imperfect review of the literature upon the subject of the employment of oxygen in the treatment of pneumonia has not afforded the assistance which I hoped to obtain, and I am convinced that it is not the subject of frequent administration. The "Index Medicus" has relatively few allusions to it, and the cases there recorded are either imperfect to a degree which deprives them of all value as articles of reference, or are so purely amateurish in character that no useful deductions can be made from them. Dr. Maurice Dupont² states that oxygen was first used by Dujardin-Beaumetz, and adds that the indication for oxygen inhalation is most pronounced in asphyxia. Beddoes has employed oxygen for the relief of asphyxia after submersion. Paul Bert has recommended the use of oxygen to aeronauts in making ascents into great altitudes, where the atmosphere is relatively attenuated, and the contained oxygen much rarified. The concomitant asphyxia attending these ascensions is best combatted by oxygen gas. A case is mentioned in which the asphyxia due to attenuation of the atmosphere was so sudden and so profound, that two of the three occupants of the balloon were overpowered before the necessary preparations for inhalation could be made, and only one individual survived the perilous adventure.

Crequey has reported several cases of profound suffocation from carbon-dioxide which have been promptly relieved by oxygen. "This is advantageously combined with injection of ether, or ether vapor may be mingled with oxygen gas. Inhalations of oxygen have been of vital importance in poisoning from illuminating gas, which is less amenable to treatment than is the more ordinary form of poisoning from carbon-dioxide. It has been found of great service in the treatment of persons overpowered by the unwholesome or poisonous

gases of vaults, sewers, mines, etc. The uses of oxygen apply solely to a single symptom, the dyspnoea; in cases of functional disorders of the respiratory system, or of asphyxia, in some cases acute, as in carbon-dioxide poisoning, or chronic, as in pulmonary congestion from incompetency of the cardiac valves or muscle."

Dr. J. H. Davenport³ states: "The cases in which oxygen is of benefit are conveniently divided into three classes: (1) those involving dyspnoea, which are essentially acute; acute stages of Bright's disease, heart disease, uremia, opium-poisoning, etc.; (2) those involving defective nutrition or excretion, which are chronic. Oxygen here acts as a tonic. It has in this way been found valuable in phthisis, emphysema, acute dyspepsia, anemia, etc. The amount usually employed and directed is three or four gallons daily, at considerable intervals; (3) in certain spasmoid diseases. The paper above quoted is a valuable contribution to the study of oxygen in general, but it presents no cases, and touches only to the extent above indicated upon the use of oxygen gas in the manner and for the object to which the present paper is devoted.

Dr. W. Gilman Thompson⁴ gives the following summary of uses of oxygen gas: (1) In neurotic dyspnoea; (2) when there is diminished surface for aeration of the blood; (3) diminished inflation of lungs from many causes; (4) specially beneficial in the dyspnoea of chronic Bright's disease, uremia, pneumonia, capillary bronchitis, asthma, catarrhal bronchitis, sometimes pulmonary congestion, and early stages of edema. This article has also a very carefully collected list of the published articles bearing upon the topic under discussion.

Sajous⁵ writes: "Griffith states that Dr. F. Glasgow administered oxygen internally to a patient with pneumonia, and observed decided improvement in the color of the skin, and in the general appearance."

Hilton Fagge in his concise and valuable work, does not mention oxygen in relation to pneumonia. In critical periods he recommends alcohol, ammonia, and sometimes cautious venesection.

Ertel⁶ says: "The employment of oxygen inhalations seems to me most justified scientifically in cases in which the relative pressure of the oxygen is considerably lowered, and in maladies attended with dyspnoea, in which the blood is overcharged with carbonic acid. Paul Bert was the first to demonstrate by experiments on animals as on the human subject, that in attenuation of the air down to 450 to 400 millimetres of the barometer, the symptoms of oxygen insufficiency are set up, but by the inhalation of more richly oxygenized air, a further reduction of the pressure can be borne. Under pathological conditions, arrest of the diffusion of oxygen from the lung into the blood, may give rise to a similar diminution of the pressure of the oxygen of the blood as does the lowering of the relative pressure of that gas in the atmospheric air. In such cases an increased supply of oxygen will in the same way avert the immediately threatened danger, although it exercises no direct influence upon the cause which gives rise to it. Accordingly we find indications for the use of oxygen inhalations in those diseases of the

² Boston Medical and Surgical Journal, vol. lxxxvii, p. 61.

³ New York Medical Record, vol. xxxvi, p. 1.

⁴ Annual of the Universal Medical Sciences, 1889, p. 114.

⁵ Weekly Medical Review, February 25, 1889 (?).

⁶ In the article on Respiratory Therapeutics, in v. Ziemasson's

⁷ Handbook of General Therapeutics, vol. iii, p. 243.

respiratory organs which are attended with severe dyspnoea due to defective exchange of gases, and consequent accumulation of carbonic acid in the blood, such as acute exacerbations of chronic catarrh, emphysema, asthma attended with cyanosis, and dyspepsia, in which, according to the published reports [Birch-Ascheron] oxygen inhalations arrested the dyspnoic attacks, often when they had assumed a most dangerous form. Hitherto, however, there are no published records which furnish any satisfactory account of the extension of the use of oxygen inhalations (*vide Waldeburg*).⁸

In a short article by Dr. E. C. Titus⁹ the author states that "in pneumonia it should be administered continuously from three to five minutes, and as frequently as the urgency of the case demands." He also states that "it has been found by clinical experience that oxygen is less irritating and more readily absorbed when combined with a certain equivalent of nitrogen monoxide. The proportions that I have found most valuable is two parts pure oxygen and one part nitrogen monoxide. In order to obtain good results it is of the utmost importance that these gases should be absolutely pure and properly combined. Pure oxygen I believe to be too powerful an oxidizing agent when used alone, especially when there exists inflammation of the air passages." . . . "Nitrogen monoxide is valuable as a modifier of pure oxygen, and has a soothing effect upon the nervous system. It renders the oxygen with which it minglest more assimilable, and hence more promptly available in the general system."

He reports the following case: "A gentleman, aged sixty-three, of robust habit, was taken ill with double pneumonia. Recognizing the case to be of extreme gravity, because of the rapid respiration and the early development of delirium, with a rapid, feeble and irregular pulse, I immediately began the use of oxygen and nitrogen monoxide, with stimulants and other remedies. At first the inhalations were given very frequently, as often as every fifteen or twenty minutes, and for a period of from three to five minutes at a time. After using a few times, the patient became more quiet, the breathing easier and less rapid, with clearing up of the cyanosis, abatement of the delirium, and free expectoration. The remedies were continued through the night. The following forenoon the patient expressed himself better, and very much relieved by the inhalations. The inhalations were continued through the course of the disease, at either longer or shorter intervals, as the exigencies of the case demanded, and were always followed by an amelioration of the urgent symptoms."

The last-mentioned quotation is taken from an ostensible reprint of the paper referred to, published by a company in New York as an advertisement for oxygen, which is furnished by the company in large steel cylinders containing one hundred gallons. Oxygen is also offered to the profession in the quantity of one hundred gallons, contained in small wrought-iron cylinders, under enormous pressure. In my limited experience the gas from the larger cylinders has seemed to last longer, and I thought the patient seemed to obtain more benefit from its use than from that in the smaller cylinders. In both cases the oxygen is diluted with a certain amount of nitrous oxide gas.

⁸ Published in the New York Medical Record, October 5, 1880, upon "A few Clinical Cases showing the Value of Oxygen combined with Nitrogen-Monoxide, in the Treatment of Pulmonary and other Troubles."

THE SURGICAL TREATMENT OF SPASTIC PARALYSIS IN CHILDREN.

BY E. H. BRADFORD, M.D.

AMONG the so-called paralyses of children is one affection which, though well-marked in type, has, until recently, received but little attention. Spastic or cerebral paralysis in children has remained almost neglected by orthopedic surgical writers. This fact is the more surprising as the disease gives occasion to a marked awkwardness in gait, and to deformity second only to that following infantile paralysis. The explanation for this omission may be given by the fact that until recently the affection was but little understood. Fortunately this is not the case at present, and although the pathology of the disorder is as yet somewhat of a mystery yet thanks to a number of recent writers, there is no difficulty to be met in recognizing the affection and estimating its clinical history and probable course.

The disease is in no sense a true paralysis. There is in typical cases at the early stages no loss of power of the muscles, but the patient is unable to use the limb not from any lack of strength so much as an inability to control or co-ordinate muscular action. This condition of things is limited to certain groups of muscles, usually those of the lower extremities, sometimes also of the upper extremities. In some instances only one upper extremity and one lower extremity, in others simply one lower extremity is affected. In one exceptional case in the forearm of the right hand, some of the muscles of the tongue were affected, while all other muscles were normal. In many instances the disease is combined with an impairment of intelligence. Frequently, however, the intelligence is unusually good.

Where both limbs are affected, this condition is doubly trying; and when the adductor muscles are also involved, the limbs are crossed, and the gait becomes very difficult. A degeneration of the muscles takes place, and they become permanently affected. Atrophy of other muscles also occurs, and the limbs become wasted; but ordinarily, there is not, during childhood, much wasting of the muscles, and they are peculiarly firm to the touch, even when not in use. A characteristic of the affection, in contrast to infantile paralysis, is the presence of exaggerated knee reflex which is always present. The affection is supposed to be congenital, but is frequently not noticed by parents until after the child begins to walk.

In some instances a large number of the muscles of the trunk, and the extremities are involved. In one instance the bladder was affected, attacks of incontinence of urine occurring, but usually the rectum and bladder are not affected. In one instance there was an apparent paralysis of the nerves controlling the perspiration on one side of the face. The affection is usually accompanied by a certain amount of nervousness of disposition, excitability, in other instances, however, the patients are of a calm temperament. It has been said to result from some injury at the birth of the patient; but this has not been proved, and in the majority of cases, which the writer has seen, the birth was perfectly normal. In one instance, that of an idiot, a spastic condition of the muscles of the forearm appeared to be due to an injury by the pressure of forceps at birth.

Where no defect of intelligence is present, if the

children are of a nervous or excitable disposition, they are managed with difficulty. Even in the lighter cases, the children are often deprived of an ability to play about with their companions: they are prevented from forming friendships, and lose the education which comes in that way and which is of great value in developing character. Where the affection is more extensive, and locomotion becomes difficult, children prefer to remain sitting, rather than to move about actively, particularly if all their wants are supplied by parents. They, therefore, become more helpless from inactivity than they would be simply from the natural defect. Walking is labored, and the children move about as little as possible. In the severest cases, the children's state is unusually deplorable. They are practically helpless, although their general health may be good. Where this condition is accompanied by idiocy the condition is hopeless, but in those cases where the mental intelligence is really good, but has been entirely undeveloped by the circumstances accompanying growth, the state is particularly lamentable. In the other cases where the children are able to go about readily, the awkwardness of their gait makes them frequently objects of derision among their companions, and that in itself sometimes in sensitive children is an impairment to their complete growth in mental qualities.

The gait in walking is characteristic, and is seen in no other affection. The heel is not placed upon the ground, the knee is bent, and the knee is thrown to the inner side. When both limbs are affected, the gait is a peculiarly springing one as if the patient was as desirous as possible of resting on one foot as little as he could. The limbs are dragged one over the other, and the feet sometimes turn slightly in, or less frequently they may be turned out. Occasionally the patient can walk naturally for a step or two, but when excited, in play or in ordinary walking, they will twist the limbs more violently.

In the severest cases one limb crosses another so that it is with difficulty that the patient stands. Where the upper extremities are affected, the thumb is usually pressed upon the ball of the hand, and the fingers flexed. The hand turns in, and the forearm rotates inward, whenever there is any attempt to move the arm. The muscles at times may be soft, and the hands when at rest, in good shape and position. In some instances when the patient is at rest, the muscles of the lower extremities are soft to the touch, and gentle, passive and active motions are normal; but motion following nervous effort or excitement is accompanied by spasm. The pathology of this affection is not definitely understood, farther than there is reason to believe that it is due to some affection, defect or injury to parts of the motor centres or to the cortex of the brain, accompanied in many instances by degeneration of the lateral column of the spinal cord, but this portion of the subject can better be left to the researches and investigations of the neurologists.

The important subject of treatment has been considered by the neurologists, and their reports are not encouraging. Neither the administration of drugs nor electricity is of use. Massage is of doubtful benefit. The careful education of patients and muscular training carried out persistently are, however, of advantage, and some improvement is to be gained in this way, but the number of cases where such treatment is

feasible or advisable, is few, and the amount which can be gained in the severer cases is slight.

The use of appliances naturally suggests itself as a ready means of correcting the deformities assumed in spastic paralysis resulting from the defective muscles; but, a thorough attempt of this method of treatment will demonstrate that it is practically useless, — except in cases that are very unusual.

Although it is an easy matter to devise such appliances as will prevent the limbs from assuming an attitude of deformity, yet the deformity recurs whenever the appliance is taken off. Furthermore, an appliance of great strength is necessary to resist the action of the strong muscles when the patient is of any size, for that reason it will be found that an apparatus is cumbersome and prevents, rather than aids, locomotion. And it has been found that (unlike the condition of muscles found in infantile paralysis) the muscles cannot be stretched, so that the deformities become permanently corrected. Hence, the treatment by mechanical appliances will not be found of any permanent value.

Perhaps, in the future, when surgery of the brain has been more advanced, it may be possible to attack in a few of these cases, the central nerve lesion. At present, however, such a proposition is not justified. In a case reported by Dr. Bullard and by the writer, trephining was done on the motor centre of the right arm for the reason that it was manifest that there had been bone pressure on the skull, occurring in an idiot who was certainly injured at birth by the use of forceps. The operation revealed a cortical cyst in this region — but the case terminated fatally and cannot be quoted as a precedent for future operation.

The neurologists, as a rule, have not given their sanction to tenotomy in spastic paralysis and some emphatically oppose it. The objection which has been urged against the treatment by operation being that as the affection is not a contraction of the muscles, but a defect of the brain-centres, all that an operation could do would be to weaken the muscles without altering the central conditions.

Although this objection is theoretically plausible against it can be urged recent practical experience. It has been abundantly proved that tenotomy does not injure the muscles, and it cannot rightly be said to weaken the muscles. The monograph by Rupprecht would seem to be sufficient to establish this point, substantiated as it is by the experience of other surgeons. It may be said, also theoretically, that although central brain trouble exists, yet the condition of the muscles suggests that the muscles are too powerful to respond readily to the brain influence, and, that something is needed to enable the central nervous force to compel obedience of the muscles.

What tenotomy actually does in these cases on the structure of a muscle is not definitely understood. It certainly overcomes the contraction and in spasmoidically contracted muscles it would appear that it prevents the possibility of permanent spasms. Whether this is done by lengthening the muscles or by weakening, it is impossible to say, but neither tenotomy or myotomy permanently injures a muscle. Furthermore not only tenotomy but also myotomy appears to be of advantage in these cases in enabling the patient to overcome the resistant tonic spasm in certain muscles, which interferes with locomotion.

The writer does not attempt a physiological explana-

tion of the fact, but bases his opinion on his experience in fourteen cases of varying severity. In six of these, simple tenotomy of the tendo Achillis was performed. In four, tenotomy of the tendo Achillis and section of the hamstring tendons was done. In four cases myotomy of the adductors was done in addition to the section of the hamstrings and tendo Achillis.

The cases operated upon were all children and in no case had the muscles degenerated from disease to the extent that they were not powerful, and in all was the operation amply justified by the results obtained.

Where the tendo Achillis alone was to be divided, the procedure employed was the usual one of subcutaneous tenotomy followed by fixation of the foot in a position at right angles to the axis of the leg, and later by the retention of the foot by a light appliance to prevent dropping of the front of the foot, this appliance to be worn for a few months.

If the foot be overcorrected, there appears to be, in this affection, greater danger of a resulting calcaneus, than after tenotomy of the tendo Achillis, after congenital club-foot or from infantile paralysis (anterior poliomyelitis). If, however, care is used in fixing the limb, not to overcorrect, little danger of calcaneus is to be anticipated.

Although subcutaneous division has been used in one or two of the cases of section of the hamstrings and adductor muscles, I have, of late, been led to prefer open incisions (under aseptic precautions) on account of the greater precision and definition possible.

The place of incision necessarily varies whether the part which is to be divided is in the knee or the groin. In the knee, the patient is placed on the face; after the skin is thoroughly cleaned, an oblique incision is made reaching from one side of the popliteal space to the other, running across the tendons of the outer and the inner hamstring muscles. The tendons are then carefully divided by transverse or oblique incisions. The limb is then made straight and the wound closed by a suture and an aseptic dressing is applied. If the tendo Achillis has also been divided, the foot is also placed straight. Where the adductor muscles are to be divided, they are incised near their insertion at the groin. This can be done with the tenotome or an open incision. The latter I have preferred, as it enables the surgeon to carefully limit the extent of his myotomy. The patient is placed upon the back and an assistant abducts the leg as far as possible, a straight incision just below the insertion of the muscles at the pubes is made through the skin directly over the inner border of the adductor muscle, made tense by the forcible abduction of the limb, the skin incision is separated by hooks and the adductor muscle divided by a cross-cut as extensively as may seem advisable. I have usually divided the muscle more or less completely according to the amount of the spasm, which can be more readily estimated from the fact that in these cases I have found that a complete relaxation of the affected muscles does not take place, even although all the usual symptoms of complete anesthesia from ether are present in the other muscles of the body as well as in the absence of sensitiveness of the cornea. The incision through the skin can be closed by a suture and the wound allowed to heal by first intention.

Immediately after the operation the limb should be fixed in a corrected position. The patient should be kept in bed for a few days but after this the patient

may be allowed to sit in a chair. After ten days or a fortnight the splint may be removed and the patient be allowed to go about either with crutches, or with an appliance similar to what is used in infantile paralysis. Some sort of an appliance will be necessary usually for six or seven months. The muscles, at first, may be regarded weakened by the operation, but they entirely recover their power. As far as my experience goes, there is no danger of a relapse if the operation has been thoroughly done. In a few cases, where the hamstring muscles are imperfectly divided, a slight tendency to a recurrence of flexion has been noticed.

In the cases I have observed, the benefit gained by operative interference was so marked that I think it possible that something may be gained by careful myotomy of the muscles, in the upper extremity. This will require careful examination of the muscles involved and will have to be the subject for further investigation. From evidence that has already been gained, it would appear that, in this form of the affection, tenotomy or division of the muscles relieves one of the obstacles to successful use of the limbs. Where the lower extremity is involved and where, what may be termed, the obstinacy of the muscles, interferes with locomotion; where there is spasm at the tendo Achillis this can invariably be corrected, and the same is true in spasmodic contraction at the knee and in spasmodic adduction, if myotomy has been thorough, but it is a matter requiring some judgment as to how thorough a division will be needed.

I have operated on no cases of spastic paralysis where contraction of the muscles had been followed by complete fibrous degeneration, although if tenotomy is beneficial in infantile paralysis under these circumstances, it would probably be equally so in cerebral paralysis.

In the most severe case that has come to my care all the limbs were affected and a portion of the face. The mental intelligence was remarkably good. Both arms and hands were badly affected, but he was able to use his crutches by the use of the pectoral and a few of the unaffected muscles. The child could walk about on crutches, but the lower extremities were very badly distorted and locomotion much impeded. This condition was corrected by operation and the boy became enabled to walk about with crutches without being interfered with by spasmodic twitches and inco-ordination of the limbs and with the limbs in a normal position.

Where marked mental impairment exists little or no benefit is to be expected from operative treatment, and in adult cases, persistent since early childhood, but little benefit can be expected in severe cases.

TUBERCLE BACILLI.

BY HENRAGE GIBBS, M.D.,

Professor of Pathology in the University of Michigan,

AND E. L. SHURLY, M.D.,

Professor of Laryngology and Clinical Medicine in the Detroit College of Medicine.

SINCE publishing the first portion of our investigation into the etiology of phthisis we have carried our experiments on the prevention or arrest of this disease a step further; and the results, although not verified by extended observation as yet, may be of interest to the profession.

Of all the medications used so far iodoform has been the only one that has given any definite result. This drug was administered by mechanical insufflation, mixed with varying proportions of starch and magnesium carbonate. In these experiments we have first of all taken material from a case in which the physical signs showed the presence of cavities in the lungs and the sputum contained numerous tubercle bacilli. Three monkeys were inoculated at one time with the same sputum and in precisely the same manner. They were then isolated for a week before the treatment commenced, and they were always kept isolated while undergoing treatment. The mechanical arrangement is such that the amount of the drug administered is accurately measured, and the intervals are perfectly regular so that each animal received a known amount of the drug at regular periods throughout the twenty-four hours.

These three monkeys had been inoculated and kept for a week, each one was put under separate treatment. This varied in each experiment, but one of the three animals was always put under iodoform, the others getting chlorine or some other substance with which we were experimenting.

The results obtained have been very striking, and if confirmed will be immensely important. In the animals inoculated we have not been able so far to find that any of the drugs used, either by direct medication or by insufflation, had had such decided effects as iodoform. The monkeys inoculated were kept until one, sometimes two, showed decided suffering from the induced disease, and they were then all killed so as to have all the conditions identical. The average period was three months and a half. We never in these experimental investigations allow the induced disease to go on after it is evident that the animal is suffering pain; as soon as this is manifest, it is killed. We are also very careful as to the surroundings of our animals; they are kept scrupulously clean and well fed.

On examining those animals treated with iodoform, after death, we have found an abscess at the seat of inoculation, containing fluid pus; the pus contained a number of tubercle bacilli. No lesions could be seen with the naked eye, and the lungs looked and felt as if perfectly normal. Microscopical examination showed no change whatever in either lungs or spleen, but in the liver there were patches of fatty change. This was not a fatty degeneration, but a typical infiltration, and there was a marked peculiarity about it. The arrangement of the fatty cells differed from anything we have ever seen. They were not, as is generally the case in fatty infiltration, scattered through the periphery of the lobule; but whole lobules had undergone the change, and several in one place were affected, while other parts in the immediate vicinity were perfectly normal. The whole lobule was not always affected, as at the edge of the patch consisting of several lobules, the fatty change in some ended abruptly in the middle, so that where the intra-lobular vein was cut longitudinally, it was bounded on one side by normal tissue, on the other by cells transformed into fat globules. These patches of fatty infiltration were clearly discernible in the mounted section by the naked eye. In the other animals the conditions were those of so-called general tuberculosis, all the organs except the kidneys being affected. The changes were, however, the same as those found in

pulmonary phthisis, and there was no reticular formation with giant cells.

We have these monkeys inoculated with the same tubercular material showing, in all cases except those treated with iodoform, all the well-known symptoms of artificial tuberculosis, as we call it at present. That iodoform is not a germicide is well-known: it must act by forming a chemical combination with the poison of phthisis, whatever that may be, and rendering it inert. The fatty infiltration of the liver is a point that requires looking into. As it is only an infiltration, not a degeneration, it is not so important, and can probably be prevented.

Emmerich's investigations into the antagonism of the micro-organisms of anthrax and erysipelas are very interesting, as bearing somewhat on this point. He showed that the inoculation of erysipelas organisms had certainly some effect in delaying, and in some cases preventing, the action of the anthrax bacilli. Now in this case we may suppose that some chemical substance existed in the cultures of erysipelas organisms (whether formed by them or not in immaterial) which when introduced into the system united with the poison of anthrax subsequently inoculated, and rendered it inert by forming some chemical combination. The investigations of Pawlowsky on anthrax with the simultaneous injection of staphylococcus aureus or the diplococcus pneumonia, Bouchard's results with the bacillus anthracis and bacillary pyocyanus, also the investigations of Buchner, Churin, and others, prove that there is an antagonistic effect produced, which alters and in some cases presents the well-known poisonous effects of anthrax and other diseases when inoculated into susceptible animals.

We must conclude that some substance is introduced which can combine with the poison and render it inert. Whether this is produced directly by the micro-organisms, or is a metabolic change in proteid substances brought about by their action, remains to be proved. If such a substance is able to cause this change, that is to render a poisonous substance inert, it is certainly within the range of chemistry to find this out and put it in the hands of physicians, enabling them to exhibit it on the first appearance of disease. Our experiments with iodoform certainly point this way. It may not be the best form in which iodine can be given, or it may be that further investigation will enable us to find some other drug which will act without producing any deleterious change in other organs. This has yet to be proved, and we are steadily working in this direction.

The addition of various drugs to phthisical material has rendered it inert, and in some instances has not interfered with the growth of the bacilli or with their characteristic color reaction. We have not, however, yet obtained sufficiently decided results to warrant us in publishing them. We have, however, received further corroboration to the suggestion made in our papers already published on the etiology of phthisis, that there is more than one form of bacillus connected with this disease. We have been enabled to differentiate two forms in pure cultures from human phthisis, and they differ from that found in bovine tuberculosis.

The effects produced by the inoculation of the different forms also varies, and one of them gives rise to acute inflammatory changes followed by caseation and breaking down; and we consider that this is the same organism always found in those cases of acute caseous

miliary tuberculosis, where there is no formation of reticular tissue and giant cells, and in these large numbers of tubercle bacilli are always found.

The appearances presented by the growths in tubes of agar-gelatine are sufficiently characteristic to enable them to be differentiated by the naked eye.

We trust that other workers in this direction will look into the points we have indicated, and throw more light on them.

A CASE OF METASTATIC CARCINOMA OF THE CHOROID.¹

BY O. F. WADSWORTH, M.D.

SEVERAL cases of metastatic carcinoma of the choroid have been reported in the last few years, but the number is not so great as to make it inadvisable, perhaps, to report the following one.

Miss T., forty-six years of age, consulted me June 14, 1890. Three weeks before she had observed a blur before her eyes and discovered that the sight of the right eye was much impaired. She thought there had, in the interval, been little or no change. The left eye was of normal appearance in all respects; $V=1\frac{1}{2}+$. The right eye appeared normal externally; the media were perfectly clear; $V=1\frac{1}{2}+$; T. not increased. The lower portion of the retina was pushed strongly forward; the upper and upper-lateral edge of the elevated portion was sharply defined and formed a regularly curved line, the highest point of which was situated very nearly at the centre of the macula. From this point the edge curved gradually downward to either side, on the inner side curving below the disc and reaching somewhat to the nasal side of a vertical line drawn through the nasal edge of the disc; while on the temporal side it extended to about an equal distance. All the upper part of this elevated portion presented a smooth surface, and the retinal vessels ran over it, curving sharply forward at its edge, of very nearly natural size and course, and without losing their light streak, only the fine vessels running upward toward the macula being rather larger than normal. Rapid movement of the eye produced no change in the defined upper and lateral contour, nor in the level of the surface. The color of this part was rather lighter and more uniform than that of the upper half of the fundus, which was not very strongly pigmented. No vessels other than the retinal vessels could be made out. Well downward and extending to the limit of the visible field, the retina appeared to be floating; it had lost some of its transparency, its surface was uneven, its vessels dark and winding. The disc and the upper half of the fundus appeared normal.

The opinion was expressed that, in all probability, there was a solid growth within the eye, and that in that case the eye should be removed. To settle the diagnosis I proposed that a needle should be passed into the supposed tumor. The proposition was acceded to, and under cocaine a cataract needle was thrust through the sclera, eight or ten millimetres to the inner side of the cornea, and a little above the horizontal meridian and by the aid of the ophthalmoscope its point directed to the upper central part of the elevated portion. The point could be very distinctly observed and was seen to reach the surface of the growth about one millime-

tre (two-thirds disc diameter) below the centre of its upper edge, at a point where there was no visible vessel. It caused no depression of the surface, while a distinct resistance to lateral movement was felt. From the point of contact a small hemorrhage ensued, forming a bright red stripe, perhaps one millimetre wide, extending downward over the surface of the retina some five millimetres. Five minutes later this did not seem to have increased.

It was only after I had advised removal of the eye that I learned the earlier history. Sixteen months before Dr. D. W. Cheever had removed the right breast for cancer. The mammary tumor had existed for some time, was of moderate size, dense, and had puckered in the skin. There was no microscopic examination, but no doubt was felt as to its nature. She had made a good recovery and her general health had continued good. Dr. Durgin, who had seen her for a slight cough a few weeks before her visit to me, informed me that at that time there was a nodule the size of a bean in the cicatrix, which was said not to have enlarged in the two or three months since it was first noticed, and that there were no enlarged glands in the axilla. The idea of a cancerous deposit in the lung had suggested itself to him as the cause of the cough and he had thought there was slight dulness at the lower part of the right chest; but the cough was readily thrown off, and did not recur.

Consideration of the fact that the ocular tumor was a secondary one and that there were doubtless other deposits elsewhere led me to change my proposition of immediate enucleation and to advise that there would be no harm in postponing the removal of the eye until the growth should perhaps cause pain. The patient, however, after two or three days, decided for immediate removal.

I did not see her again until the time of operation, June 26th. Vision had rapidly failed after I first saw her and there was now only perception of light. The iris reacted well to light, but there was no reflex from the pupil with the ophthalmoscope. The eye was enucleated and placed in Müller's fluid.

July 14th, the eye was divided by a vertical section antero-posteriorly through the optic nerve. The vitreous was stained with blood, and a small, loose blood-clot lay in its lower part. The tumor was situated in the choroid, was light colored, moderately firm, nearly circular, with smooth surface. It measured ten by twelve millimetres, attained a thickness of three millimetres at its thickest part, and thinned gradually toward the periphery where it presented a rounded edge. Its most posterior part was at about the centre of the macula and its inner edge curved below and somewhat to the nasal side of the disc. Over fully the posterior half of the growth and over the greater part of the fundus the retina was in position; over the anterior part of the growth and forward to the ora serrata it was loosely detached.

Dr. H. F. Sears kindly made sections of the tumor. Microscopically it showed larger and smaller masses of cubical and irregularly shaped epithelial cells with areas of hyaline degeneration in alveoli formed by connective tissue stroma. It was in the choroid and in places had invaded the inner layers of the sclera. The retina was not involved.

The ophthalmoscopic appearance was very characteristic of a solid growth, and the result of the puncture with the needle left no possible doubt. Although

¹ Read before the American Ophthalmological Society, July, 1890.

the hemorrhage which immediately followed the puncture was of very small amount and a few minutes later had not increased, yet it must have recurred later and been the cause of the subsequent rapid loss of sight.

REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

MILK SUGAR AS A DIURETIC.

PROFESSOR SÉE considers milk sugar as the most reliable of all diuretics. In diseases of the heart and stomach, and also in renal or cardiac affections accompanied by dropsy, its diuretic qualities render it very serviceable. Milk in these cases, as is well-known, is of great value, not only on account of its diuretic properties, but also because it is so complete a food. Three or four quarts of milk a day may be used with advantage, but the proportion of sugar in milk is rather too small. Professor Séé has discovered, by experimenting successively with the different constituents of milk, that lactose is the active agent. The action of the other constituents of the milk, such as the water and salts, is inconsiderable, the chloride of sodium adds nothing, the salts of potassium very little, to the polyuria induced by the sugar of milk. This sugar is found in all kinds of milk, is crystalline, and quite soluble in water. About three ounces of it dissolved in two quarts of water, with complete suppression of every other liquid, as soup, tea, wine, mineral water, etc., will afford marked diuresis of all cardiac troubles, no matter what the lesion may be, though the results are less constant in arterio-sclerosis.

In twenty-five cases, abundant diuresis resulted; at least eighty ounces of urine were passed, usually one hundred or more, in the twenty-four or twenty-eight hours subsequent to beginning the treatment. As soon as the treatment was stopped the amount of urine dropped off to what it had been before the administration of the diuretic. Professor Séé, therefore, considers lactose to be, not only the most efficient diuretic, but also the least harmful. If milk is used, and two quarts only are taken, diuresis follows; if four quarts of milk, containing six and one-half ounces of sugar of milk, marked glycosuria is produced; at the same time there is considerable excretion of urea, indicating a destruction of the albuminates. With the sugar alone these disadvantages may be avoided, for three and one-quarter ounces of milk sugar in water will set up a copious diuresis, such as we cannot be sure of from even four or five quarts of milk.

The polyuria resulting from this treatment surpasses that from all other methods; the amount of urine rises rapidly to two, two and one-half, usually to three or three and one-half quarts, and even to four or four and one-half quarts on the third day. After this it remains at that point or drops to two and one-half quarts for some days. After a few days the same treatment may be employed to repeat the diuresis.

It is fair to say that while this action of lactose may be relied upon in cases of cardiac dropsy, but in those of renal origin its effects are slight. In cardiac disease it never fails unless the kidneys are diseased, and the amount of albumen is considerable. When the amount of albumen is small, the result is favorable, from which it may perhaps be inferred that there is present only a simple venous congestion.

It is suggested that the diuresis may serve as an indication of the condition of the kidneys. Various conditions may affect the diuresis; sometimes diarrhea occurs, and this diminishes the amount of urine, or the patient may have been subject to profuse sweating, which would also lessen the quantity of urine.

As a rule, the remedy is well-borne. It may be prescribed for eight or ten days, and then omitted for a few days and again renewed. If the simple solution is not well tolerated, brandy or peppermint may be added to it. All other liquids should be reduced in amount, or omitted while the treatment is pursued.

This method presents great advantages over many others and the patient may partake of any food; a meat diet if the physician so desire. Professor Séé¹ considers that the physiological action of lactose is upon the kidneys, since it does not exert any influence upon the circulation. He classes it with caffeine, as he believes that caffeine acts upon the kidneys only, and not through the circulation, as do digitalis and strophanthus. Lactose is regarded as superior to caffeine as it does not effect the brain and nervous system.

ACCIDENTS WITH COCAINE AND PRECAUTIONS.

Dr. Delboe² has published a statistical and clinical report on the accidents produced by this substance. He collected the histories published of accidents, from which he has been able to establish that up to the present time, only five deaths have occurred after the use of cocaine. This proportion would evidently go against the method if only the bare facts be accepted without interpreting them. From the various observations published, it would appear that death resulted from the enormous doses that were administered, varying from about eleven grains to double that quantity. According to Dr. Delboe, cocaine may be employed at the maximum dose of three grains, although he would not advise such a dose ordinarily, as beyond that quantity serious accidents occur.

To avoid rapidity of absorption, solutions too concentrated should never be employed. A two per cent. solution is sufficiently strong. It is not necessary in order to obtain anesthesia to push the needle into the muscles or the subcutaneous cellular tissue, but into the thickness of the dermis. In spite of all precautions accidents may occur, and for them nitrate of amyl, injections of ether and caffeine are indicated.

Dr. Isidor Gluck³ has had occasion to use cocaine frequently in diseases of the eye, ear, nose and throat, and seeing at times most alarming effects from its use, came to have a certain dread of it.

It is when used in the treatment of the nose and throat, and when used hypodermically, that cocaine produces most alarming symptoms. Though employed in strength varying from four per cent. to twenty per cent., sometimes the weakest solutions will produce the toxic effect in one susceptible. He now uses the following solution:

R Phenol	ggt. ii.
Aqua destillat	3 <i>l.</i>
Shake until solution is perfect, then add	
Cocaine hydrochlorate	grs. x.

This formula has been in use for more than a year, and since using, no toxic effects of the drug have had to be treated. It has been used in any quantity in any part of the nose or throat, without the least fear of

¹ L'Union Médicale, 1889.

² Medical Record, June 7, 1890.

³ Medical Record, June 21, 1890.

harmful consequences. Phenol is itself a local anesthetic, and is supposed to prevent absorption of the cocaine by forming a very superficial eschar, and thus its toxic action is avoided. Further, the phenol prevents the congestive reaction, prevents the decomposition of the solution, and renders it aseptic.

Professor Wolffer⁴ points out that the causes in which unpleasant results have followed the injection of cocaine, are chiefly those in which the drug has been employed about the head. It seems that it is more dangerous when injected in proximity to the brain. While one may use sixteen minimis of a five per cent. solution in all other parts of the body, for injections about the head, the same amount of a two per cent. solution is sufficient.

CASTOR OIL AS A MENSTRUUM FOR COCAINE.

To lessen the irritation caused by a cicatrix rubbing over a corneal ulcer, Dr. S. Mitchell⁵ employed a solution of cocaine in castor oil; this relieved the pain and permitted the ulcer to heal after other solutions had been tried in vain.

DANGERS OF ANTITHERMIC AND ANALGESIC ANILIDES.⁶

Among the crowd of modern drugs it is difficult to have a clear conception of their individual action and uses; when it is possible to class them according to their chemical or other relationships the group characteristics may be more readily kept in mind as a useful guide to their administration. A group of antipyretics, having aniline as a chemical basis, may be profitably considered from this standpoint. In aniline one may replace an equivalent of hydrogen by formyl or acetyl, and obtain formanilide or acetanilide; these are the simple anilides. There is further a second equivalent of hydrogen which may be replaced by an alcohol radical, methyl. In this way other compounds, methylformanilide and methylacetanilide, are obtained. It is probable that these substances partake, to some extent, of the poisonous qualities of aniline; arranged according to their poisonous doses for animals, the methylacetanilide is the most poisonous, then acetanilide and methylformanilide, and last, formanilide. Their toxic properties increase in proportion to their molecular weights.

INTRAVENOUS INJECTIONS OF SALT SOLUTION.⁷

The indications for increasing the volume of the blood, when it has been suddenly diminished, may be met at any time by every practitioner. It is, therefore, desirable that physicians should be familiar with some of the principles involved in the use of this means of reviving a patient, especially as the operation is a simple one.

It should be borne in mind that transfused blood possesses no nutritive value. Transfusion is, therefore, useless in all forms of "atrophic" anemia where the changes in the blood-supply correspond in degree to the wasting changes occurring in other tissues. The examination of the blood alone enables us to determine whether the anemia is "atrophic" in its nature or not.

Blood, rather than salt solution, may be needed where the red blood corpuscles are incapacitated, as

in carbonic oxide poisoning, where venesection should always precede the transfusion. Even then the procedure is of doubtful value. There is scarcely a single condition of the blood in which the want of red blood corpuscles is a source of urgent danger. After the greatest losses of blood in animals, a sufficient number of red corpuscles always remain in the circulation to carry on respiration, provided the circulation is maintained. In man, the loss of blood can never be so great as in animals, as syncope occurs earlier.

Blood is, therefore, not required to carry on respiration after sudden loss of blood in a patient previously healthy; nor does transfusion of blood rather than saline solution, seem to be indicated on account of its respiratory value in anemia. The immediate source of danger from sudden loss of blood is the fall in the blood-pressure to a point where the circulation cannot be maintained; the indication is, therefore, to raise the pressure within the vessels, for death will ensue unless means be taken to meet the threatened failure of the circulation. While defibrinated blood may have certain advantages over saline solutions in restoring the tone of the vaso-motor centres, these advantages are more than neutralized by other and still greater disadvantages. For example, it is difficult to obtain blood in sufficient quantity or with sufficient rapidity, as compared with the ease with which a simple saline solution can be prepared. There are dangers attending the transfusion of blood not encountered when saline solutions are used. For practical purposes all the advantages to be gained by transfusion may be equally well and more readily obtained by injecting a neutral saline such as a three-quarters per cent. solution of common salt (about one drachm to the pint).

The only pressing indication for transfusion is collapse from sudden and severe loss of blood.

With regard to its performance, two points may be noted: to use simple instruments, a glass canula with a piece of India-rubber attached and a clean syringe, and never allow the temperature of the solution to rise above that of the body. Milk, or other mixtures possessing what are supposed to be nutritive properties, are never indicated. They have no value, not possessed by an equal bulk of saline solution. [It is simpler to let the solution flow in from a glass funnel, a glass canula or a subcutaneous needle. Three feet of small, clean rubber-tubing and a funnel are all the special apparatus required.—REF.]

THE VALUE OF LARGE SUBCUTANEOUS INJECTIONS OF SALT SOLUTION.⁸

Van Murchurier, of Dresden, reports eight cases of hemorrhage, seven of them in confinement, which were successfully treated by the subcutaneous injection of a six-tenths of one per cent. salt solution. A rather large-sized hollow needle is sterilized by heating it over an alcohol flame, and the rubber tube and funnel, or irrigator, are disinfected with a five per cent. solution of carbolic acid, directly after which the apparatus is filled with salt solution. One or two pints of the solution, at a temperature of 37° C., are injected into the back, between the scapulae or near the axilla, at one or several points. The absorption and distribution of the solution are promoted by massage of the part. This method is less dangerous than transfusion, and is comparatively painless.

⁴ Schultze's *Fabrikarier*, No. 7, 1889.

⁵ Medical Record, 1889.

⁶ Gazette Hebdomadaire, September 13, 1889.

⁷ British Medical Journal, 1889.

⁸ Therapeutische Monatshefte, October, 1889.

CARBOLIC ACID FOR FURUNCLES.

Staff-Surgeon Len,⁹ of the German army, gives the following conclusions on the treatment of furuncles:

Subcutaneous injection of dilute carbolic acid is a simple and effectual abortive treatment of furuncles. Incipient furuncles which have not yet suppurred are especially adapted to the treatment. A cure results in these cases without necrosis of the connective tissue; in the more advanced furuncles which have formed pus or are even discharging it, no deforming cicatrix follows. The proper strength of the carbolic acid is three per cent. This mode of treatment is particularly valuable in the army, because it shortens the time on the sick list (when it is necessary to put the man on at all), and he returns to duty with a better cicatrix, while many may be treated without going to the hospital. The simplicity of the apparatus required—a subcutaneous syringe and a small bottle of carbolic solution—make it possible to carry out the treatment anywhere and at any time; for example, during manoeuvres and on the march.

LEMON-JUICE IN NOSEBLEED.

In the case of rebellious epistaxis which had resisted various modes of treatment, including plugging of the anterior nares, Dr. Fauchon gave relief by the local application of lemon-juice.¹⁰ An injection of the juice was made by a glass syringe into the nostril from which the blood was escaping, with the result of immediately arresting the hemorrhage.

DISINFECTANTS FOR INTESTINAL DISCHARGES.

Professor Uffelmann¹¹ has carefully tested the disinfectants which are commonly recommended for the purpose of disinfecting fecal discharges as to their reliability to accomplish this object. His results vary to some extent from the generally accepted views on this subject, though he insists upon the importance of contact with the disinfectant for a considerable time. We can hardly hope to find even the strongest agent capable of exerting its preventive qualities within a few minutes.

RECENT HYPNOTICS AND ANALGESICS.¹²

It is difficult to estimate the relative hypnotic power of drugs, but the order of potency seems to be as follows: (1) sulphonal, (2) amylyhydrate, (3) paraldehyde, (4) urethan, (5) methylal; none of these drugs equals chloral in the certainty of its effects. It seems probable that a dose of sulphonal has, as a rule, about the same soporific action as three-fourths of its weight of chloral; and Von Mering is of the opinion that half a drachm of amylyhydrate has the same power as fifteen grains of chloral, or forty-five minimis of paraldehyde.

The time in which sleep is brought on will vary much, according to the condition of the stomach at the time of administration; but it depends, too, on the readiness with which they can be absorbed. Urethan, being soluble and non-irritating, is most rapid in its actions; a tendency to sleep is often noticed a few minutes after administration. Paraldehyde and amylyhydrate are also rapid in their effects, but sulphonal more than chloral or any other drug, is slow in producing its effects, and two or three hours

not infrequently elapse before they are apparent, though at times sleep follows in from one-half to three-quarters of an hour.

The duration of the action of these drugs depends partly on the potency of their cerebral influence, partly on the rapidity of excretion. On the latter account, the hypnotic effects of urethan most quickly pass away; and if the tendency to sleep, soon after its exhibition, be counteracted, its influence is not again observed. Methylal, too, is very quickly eliminated.

Among the unpleasant effects, excitement, instead of sleep has been known to follow the use of chloral; amylyhydrate, too, though very rarely, has produced excitement before sleep. After sulphonated patients sometimes pass a restless and excited night, occasionally there are bewilderment and restlessness, rarely delirium. Paraldehyde is practically free from this inconvenience. It may be the greater popularity of sulphonated makes us better acquainted with its effects; but none of the other hypnotics seems to produce such disturbances of the nervous system as those reported after sulphonated, though amylyhydrate occasionally causes headache, giddiness and a feeling of drunkenness. All the hypnotics probably have some direct action on the spinal cord, but the comparative influence of the newer hypnotics on spinal centres requires further investigation.

Bromide of potassium is often a satisfactory and safe remedy in many forms of insomnia; but, this failing, we are often bound to resort to some other drug. Resource to chloral hydrate is a possible cause of great evil; it is seductive, and many have received great injury from it. It seems to be well proved that the system does not get so habituated to chloral that large doses can be taken without danger, and there seems to be good reason for believing that fatal consequences at times arise from a dose which has several times been taken with impunity. We ought never at once to order chloral for simple sleeplessness, but should first order one of the newer hypnotics. In slight cases urethan in doses of from twenty to thirty grains, is often very successful. It is not disagreeable, especially when given in a sweet, slightly flavored mixture; and of all the hypnotics it is the least likely to give rise to dizziness, headache or other discomfort. It should be given immediately before the patient settles down to sleep, for it is quickly absorbed, and the slightest disturbance may prevent its good influence. Though the effect of the drug is of short duration, the sleep induced is continued naturally. If necessary the dose may be increased up to two drachms; a larger dose than this at times causes dizziness, if it does not produce a sleep.

The tastelessness of sulphonated has rendered it a favorite remedy in simple sleeplessness. Doses of from ten to fifteen grains often fail and it is necessary to raise the dose to twenty or thirty grains; larger doses are sometimes recommended, but, from doses above twenty grains, troubles affecting the nervous system are sufficiently common to render some warning to the patient with regard to their possible occurrence desirable. It should be administered finely powdered, in soup or warm milk, some hours before bedtime.

Where delirium is associated with sleeplessness, as in delirium tremens, the milder hypnotics usually fail unless given in very full doses, and urethan is of little value. The older hypnotics, chloral and bromide of potassium, are more effective remedies. In cases of

⁹ Deutsche militär-medizinische Zeitschrift. Lancet, August 17, 1889.

¹⁰ Medical Record, October 1, 1889.

¹¹ Therapeutische Monatshefte, September, 1889.

¹² British Medical Journal, November 2, 1889.

sleeplessness with delirium hyoscine is often used with much advantage, especially where great mental disturbance is accompanied by considerable excitement of the circulation. In mental diseases, chloral, in continued doses, may give rise to serious evils, and opium is a two-edged sword; bromide of potassium often fails, unless given in quantities to affect seriously the heart; urethan is too feeble; sulphonal, paraldehyde and amylyhydrate, all have their advocates, and in moderate doses seem worthy of trial. As amylyhydrate has been known to produce very serious effects when given in excessive doses, and sulphonal, in large amounts, is capable of giving rise to unpleasant nervous phenomena, it appears probable that paraldehyde is the best drug to give when hypnotics have to be administered in full doses and continuously. Dr. Clouston, after long experience, believes that in mental cases paraldehyde is the purest and least harmful hypnotic when insomnia is marked and intractable. He begins with forty minims or a drachm, and goes up to two drachms in ordinary cases, sometimes three or four. Sulphonal, he says, will not compare with it. Other observers praise sulphonal, especially if given in small and repeated doses.

A SIMPLE REMEDY FOR HICCOUGH.

After trying all the ordinary measures without avail, Dr. Loebl fell back upon a household remedy as a last resort, and ordered a teaspoonful of pulverized sugar wet with an equal volume of wine vinegar, to be taken at one dose. The hiccup stopped immediately, and didn't return for six hours, and then ceased after a second dose of the remedy.

(To be continued.)

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

T. F. SHERMAN, M.D., SECRETARY.

REGULAR Meeting, Monday, October 6, 1890, Dr. G. H. M. ROWE, Chairman.

DR. HENRY R. STEDMAN read a paper on

THE SELECTION OF CASES OF INSANITY FOR DIFFERENT METHODS OF PRIVATE CARE.

DR. A. N. BLODGETT read a paper on

CONTINUOUS INHALATION OF OXYGEN IN CASES OF PNEUMONIA OTHERWISE FATAL.¹

DR. MINOT mentioned a case in which the inhalation of oxygen was tried as a remedy for asphyxia from carbonic acid gas, about fifty years ago, while he was a student in Harvard College, and which was, perhaps, the first instance of its therapeutic use. Two men, employed in the kitchen of the college commons in University Hall, on going to bed one cold night, lighted a pan of charcoal in their room. In the morning they were found perfectly insensible, and breathing sterotomously. It occurred to Dr. John W. Webster, then Irving Professor of Chemistry, that the inhalation of oxygen might save the lives of the patients. Accordingly, a large quantity of the gas was made in the chemical laboratory, and administered to them. The effect of the treatment could not be positively deter-

mined, since one of the men recovered, while the other died.

DR. F. C. SHATTUCK: My interest in the therapeutic use of oxygen has been awakened especially within the past year, and I am much struck by Dr. Blodgett's communication, and the valuable suggestion which it contains. It is my impression that oxygen has been used much more in New York, Philadelphia, and perhaps some other cities, than in Boston; and I had supposed the literature of the subject to be less meagre than Dr. Blodgett has found it. My personal experience with oxygen in pneumonia is limited to two cases; one seen in consultation, the other in hospital practice; both were fatal. The gas was given at intervals in doses of ten gallons or less. I think the tendency has been to wait till the case seemed pretty desperate before using the gas, and Dr. Blodgett's experience would lead one to think that far larger quantities should be used. It would appear that on the other side of the water eighty gallons daily is frequently used in cases of different kinds. Indeed, Ephraim² states, in his little monograph, that an objection has been raised against the use of such small doses as the above. "When the average daily consumption of oxygen," it is said, "is five hundred gallons, is it not absurd to expect notable results from the administration of eighty?" One obstacle which the therapeutic use of oxygen has had to encounter lies in the attitude of physiologists toward it, and the doctrine that an individual takes from the atmosphere all the oxygen which he is capable of consuming, the percentage of the gas in the ordinary atmosphere leaving a wide margin of safety. In the monograph, to which I have alluded, this question is discussed, and recent experiments are brought forward to show that the inhalation of increased quantities may be followed by increased consumption. From a scientific point of view, this is the crucial test. But that which obtains in physiological does not necessarily hold true in pathological conditions, and clinical experience would seem to show that oxygen inhalations may be of distinct value. A second obstacle is the expense of, and, oftentimes, the difficulty in obtaining the gas; at ten cents a gallon, the former is considerable. Last winter, following a suggestion of DaCosta, I used the gas in a case of pernicious anaemia, and in another of leukemia. The former patient was steadily going down hill until the oxygen was begun — ten gallons two or three times a day. From that moment improvement set in, and was very marked. The blood was restored almost to its normal condition as far as the count went; and the complexion, from lemon yellow, became ruddy. The gas was omitted, the patient relapsed, and failed again to improve, though the gas was resumed and in larger quantities. In the case of leukemia no benefit followed several weeks' trial.

In conclusion I should like to emphasize the fact that this hint of Dr. Blodgett's of the continuous administration of the gas, in just such cases as he reports, is likely to be of great value.

DR. GREEN: I should like to ask in reference to alimentation during the continuous use of the gas.

DR. BLODGETT: The alimentation was continued as much as possible. The patient became able to take and retain food to a greater degree than before, so that that function seemed to be invigorated and increased in its activity by the use of the gas.

¹ Berliner Klinik, 1890.

² See page 481 of the Journal.

DR. VAUGHAN: I should like to speak of a recent case in which I used oxygen, and I am very glad to have this precedent for a bolder and continuous use of it. The case was not exactly a parallel one, as the seriousness of the case came more from pre-existing cardiac asthenia, than from the amount of lung involved, although the right lung was entirely consolidated. The action of the heart and the respiration were very rapid and uneven from the beginning. It was an unpromising case from the start, beginning with vomiting and grave nervous disturbance. As the case progressed, symptoms of asphyxia and marked cyanosis set in, and as a forlorn hope I resorted to oxygen. I used it in the intermittent way,—three to five minutes every half-hour at first and with evidently very good effect. The cyanosis was diminished and the breathing improved very much. About the sixth day, however, cyanosis and dyspnoea increased, and the patient began to sink rapidly. Coarse bronchial râles appeared on the other side and in the trachea, with clammy sweat and rapid, thready pulse,—all the signs of impending dissolution. We pushed the oxygen a good deal more strongly, although not continuously, with the result of tiding the patient over the crisis. The cyanosis and bronchial râles disappeared, and hope began to come back. The respirations diminished in frequency, the pulse came down almost within bounds of safety, and we began to have hope of recovery; but the next night the patient was attacked with pain on the other side, apparently pleuritic; in a few hours we got pneumonic signs, and in eighteen hours the patient died from simply lack of strength to live. The effect of the oxygen in this case was evidently good, and when we pushed it harder it met the serious crisis apparently, and tided the patient over. I think if the heart had been stronger we could have saved the patient.

DR. H. F. VICKERY: I should like to mention that a few days ago Dr. Gannett showed me a patient who he believed owed his recovery from pneumonia to the use of oxygen. I did not see the case until it was convalescent. Dr. Gannett was firmly of the belief that oxygen saved the man's life.

With regard to the use of oxygen where there has been poisoning by illuminating gas or carbon monoxide in any form, there is one difficulty *a priori* which does not exist in the case of mere diminution of the aerating surface of the lung. As I understand it each red blood corpuscle has the carbon monoxide combined in itself, and does not take up oxygen readily even if it is presented to it; so from a *priori* standpoint I can see why it may fail in its use there more often than in pneumonia. In fact, in thinking about the treatment of those cases it is very difficult to know of anything that ought to do good except stimulation and the infusion of some other person's blood into the circulation, the removal of some of the poisoned blood and the injection of blood, to which there are also objections.

DR. MARION: Some four years ago I had a desperate case of pneumonia in which I am sure that the use of oxygen was of great benefit to the patient, and I think I should use it again under similar circumstances. Although in that case the patient died, yet she was very much relieved by the oxygen.

DR. IRWIN: I have had the opportunity of using oxygen inhalation at the Marine Hospital four times during the last two and a half years. The subjects

were all sailors, and each case was one of double pneumonia. The last one was particularly unpromising inasmuch as there was alcoholism and jaundice present in addition. I am satisfied that all four of these cases owed their recovery to the use of the gas. They were all apparently dying of asphyxia and in a desperate condition. The method of using the gas was rather crude, and perhaps it would be well to mention it. The gas was made in an iron retort, and caught in an old rubber bag, and while one bag was being used another was filled; it was given continuously I think in most of the cases, probably twenty-four hours. The crudeness of the preparation was shown from the fact that there was a good deal of chlorine present which caused some irritation, and yet not enough to interfere with the efficacy of the treatment. I am satisfied that it is an excellent remedy in such cases.

DR. ROWE: I am sorry that some one of the visiting physicians of the City Hospital is not present to state the results obtained there. I know that oxygen is used there to a considerable extent. I believe that oxygen is used in a routine method in nearly all the desperate cases of pneumonia. The recovery of some of these cases has been attributed to the use of oxygen. I also know that there have been some fatal cases. My impression is that the matter is being observed and that the hospital records will contribute a large number of cases to show the result of oxygen treatment. I may say in this connection that it is almost invariably used in cases of gas-poisoning if the person is seriously ill and fails to mend after the first treatment. In regard to the kind of gas that is used, the New York canisters were so large and heavy that that fact of itself came near defeating the use of oxygen. The nurses could not handle it. Where it had to be carried from one ward to another it was very cumbersome, but in the small canisters which can be readily carried about I think the house staff were much more encouraged to use it. As to the quantities, I cannot speak with accuracy, but I think the routine treatment in cases of pneumonia, is to use three gallons every fifteen minutes.

DR. BLODGETT: I presented this paper not as a finished treatise on this subject, but in order to induce those who know more about the use of oxygen than I do to give me, and possibly others, the benefit of their experience, and I am much gratified at the result. As far as the kind of gas is concerned I do not know anything about that. I used both the varieties mentioned by Dr. Rowe simply because one source of supply became exhausted. It is my impression that the larger cylinders are more economical and last longer than the smaller ones. In cases of severe pneumonia I cannot see the efficacy of giving a small amount of oxygen for certainly four or five or six or ten gallons could not be considered a large amount, and then allowing a considerable interval to elapse before a repetition of the gas. It would seem to me to be like a stimulation, which must be followed by a depression, and the change from temporary stimulation to depression, I should fancy would be more severe at each recurrence; and for that reason I am inclined to consider the continuous administering of oxygen in quantities adapted to the emergency as having a marked advantage over its intermittent administration in even larger quantities. The fact that it worked so very pleasantly without any disagreeable after-effects in the case reported,

has certainly made me feel bold to use it in the same way again. I wish to speak of one other thing. Allusion has been made to the laboratory uses of oxygen and the deductions of physiologists from that standpoint. I am satisfied that laboratory experiments in this respect do not furnish reliable guide for the employment of oxygen in pathological conditions. I think it very likely that the effect produced by the administration of oxygen to a perfectly healthy subject might be entirely different from what I observed in its administration under circumstances in which the respiratory area of the lung was so seriously diminished. In a great many cases of this character, death occurs simply from *lack of oxygenation*, and is accompanied by all the features and signs which indicate that condition. I did not expect recovery in this case, yet I should more confidently expect it in another case of similar character and gravity, if there was no other serious pathological condition than the simple occlusion of lung-tissue. If that condition has not gone too far and is essentially free from serious complications, I cannot see why the administration of oxygen cannot be confidently adopted as the method which offers the best results with which I am acquainted. The pneumonic condition under ordinary circumstances is self-limited, and will clear itself in a pretty clearly defined time, and if we can only tide the patient over this critical period, we may, it seems to me, confidently hope for cure in many patients who otherwise must inevitably die, by that, I mean many of those cases in which the diminution of oxygen becomes so great that all the appearances of asphyxia are produced, and in which the patient dies from that cause and not from anything else.

I do not know the exact composition of the oxygen supplied by the trade, but all the gas I have used was said to be diluted with nitrous oxide in the proportion of about ten per cent.

DR. SHATTUCK: I think so much has been said about the treatment of poisoning from illuminating gas, that we ought to remember the brilliant results reported in these cases from the use of nitro-glycerine. If you can cure them with nitro-glycerine it is certainly easier and less expensive. I have read some remarkable reports this last year, although I have no personal experience in the matter.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED Meeting, October 20, 1890, the President, GEORGE T. HARRISON, M.D., in the chair.

DR. L. DUNCAN BULKLEY read a paper entitled,

CLINICAL NOTES ON LICHEN PLANUS.

He quoted the description of this disease given by Erasmus Wilson, who was the first to call attention to it, in which he points out that the flatness of the summit of the papules in lichen planus is altogether different from anything that is met with in other affections of the skin, and that the flatness is rendered more conspicuous by the summit of the papule being occupied by a thin, horny, semi-transparent lamina of cuticle, depressed on the surface, and marked in the centre by the aperture of a follicle, which represents a sort of *hilum*. "It is to this peculiarity of figure," he says, "that the word *planus* is especially applicable, and this has guided our use of the term."

This eruption, Dr. Bulkley affirmed, was rather an easy one to diagnose; if these peculiarities were borne well in mind, for it was a peculiar fact that, as far as he had observed the disease, there were always primary lesions to be discovered somewhere (generally at the edge of the eruption), however old or altered it might be in character; and these primary lesions would always present the flat summit, with the depression in the centre. The location of the eruption, or its seat of predilection, was also rather peculiar or characteristic. It is pretty constantly met with about the wrist, and a few or many papules develop on the back of the hands. The next most frequent locality is on the lower legs, especially on the anterior aspect, and it commonly comes on the body only after there has been a considerable development on the extremities.

There was still another remarkable characteristic of the eruption, namely, that the papules or patches generally leave behind them a pigmentation much greater than would be ordinarily expected from such lesions; and this staining was measurably proportionate to the duration of the eruption or of the individual portions of it. Whether of longer or shorter duration, it was always a recognizable feature. While in certain instances the suffering occasioned by the eruption was excessive, in the main the disease was not characterized by much itching; the single papules appearing from time to time often passing unnoticed until seen.

Lichen planus was one of the rarer diseases of the skin. In Dr. Bulkley's experience, among some 8,500 cases of skin disease in his clinics at the New York Hospital, there occurred just forty cases of it; giving a percentage of .46. Among something over 7,000 skin cases in private practice of which he had records, there occurred forty-three cases of lichen planus, giving a percentage of a trifle over .60. The relatively somewhat larger proportion in private practice he thought was probably accounted for largely by the greater attention which would be paid to such an eruption among the wealthier classes, where the disfigurement would call for relief, even if the itching were not troublesome. The combined statistics of the two classes of cases of lichen planus gave a percentage of .53 in all cases of skin disease. The eruption affected males and females in almost the same proportion, and it was, furthermore, one of adult, or rather middle life, fifty-six of the eighty-three cases, or nearly seventy per cent., occurring between the ages of thirty-five and fifty-five years. There was but a single patient under twenty years of age.

Lichen planus had, so far as he knew, no tendency whatever to spontaneous recovery. Having given a table showing the duration of the disease in his cases in private practice, he said that the disease was also rebellious to treatment, as was shown by an additional table exhibiting the length of time during which forty-two patients were under observation and treatment. The prognosis, therefore, although good as to an ultimate cure, if proper treatment were faithfully carried out, should always be a guarded one in regard to the duration of the eruption.

The diagnosis of ordinary cases, he said, should not be very difficult if due regard were paid to the peculiar and almost pathognomonic features of the eruption mentioned. The only eruptions which should ever be mistaken for lichen planus were: a newly developing psoriasis punctata, papular eczema, lichen simplex,

scabies, erythema papulatum, and a papular syphilid. Some time ago Jonathan Hutchinson had described this eruption under the name of lichen psoriasis, and the mistake of confounding lichen planus with psoriasis was the more justifiable because, as he had pointed out, the lesions of the latter, when they are just developing, present minute punctate spots, with a shiny summit, like those of lichen planus. In this connection Dr. Bulkley described a case of his own in which the eruption was diagnosticated by the family physician as psoriasis punctata, and which was of special interest as making the fifth case that he had seen in which the eruption had developed largely on the glans penis. In commenting on it he said that in a guttate psoriasis which might affect almost the same extent of surface in the forearms, we would have the newly formed papules covered with a silvery, easily detached scale; the color also would be more livid, and they would not be so decidedly flat and depressed in the centre. Moreover, in this particular case, the diagnosis from psoriasis could be made with certainty by the clinical history, since no psoriasis could remain, as this had, for three months in the same condition; it being well-known that the papules of psoriasis, which may begin very small, invariably enlarge quite rapidly, so that in this time they would somewhere have presented typical lesions of the disease.

In both papular eczema and lichen simplex the papules were more acutely inflammatory, were always acuminate, and were flattened down so as to present the appearance characteristic of lichen planus. Moreover, these eruptions were more violently itchy from the first, than the latter. The scattered papules of scabies sometimes seen on the forearms and about the elbows and abdomen might suggest lichen planus; but they resembled those of eczema more in character, and the diagnostic marks of scabies elsewhere, should establish the diagnosis. A newly developing papular syphilid sometimes resembled lichen planus; but the eruption was more general from the first, while lichen planus came out slowly, being commonly localized in one place for some time before appearing elsewhere. Furthermore, the papules of the syphilitic eruption were never as flat and shiny as those of lichen planus; nor had they central indentation, while the scale which soon formed on their summit was very characteristic. The general and other signs of syphilis would also commonly serve to prevent error. The papules of erythema papulatum were, as a rule, much larger, more elevated and rounded in the summit, and had not the peculiar purplish-pink lustre generally observed on the papules of lichen planus. Moreover, the lesions of erythema papulatum commonly come out very quickly, presented much more inflammatory characters, and subsided much more quickly than those of lichen planus.

The subject of the relations between lichen planus and the lichen ruber of Hebra, or rather, the question of the identity of the two, was an important one, both as affecting prognosis and treatment; and he expressed his agreement with the conclusions published some time ago by Dr. A. R. Robinson; believing that the two eruptions were neither two forms of the same disease, nor different stages of the same eruption, but radically distinct affections.

Dr. Bulkley then went on to make some comments on the general features of lichen planus, as they had presented themselves to him, especially in private

practice. He had been constantly impressed with the observation of the far greater severity and obstinacy of the eruption in women than in men. In several of his female cases he had found it necessary to make use of internal quieting remedies in order to secure any rest at night, so great was the suffering occasioned by it. He had also been struck by the fact that in most of the cases in females in private practice, and especially where the disease was severe, the patient had been accustomed to the very great use or abuse of water on the skin, in the way of cold daily general ablutions; so that of late he had inquired into the fact, and seldom failed to find this to be the case. As this was a more common custom among females than males, in this country, at least, he had been led to believe that it is one element of causation to be taken into account; and in a number of cases in males he had found the same habit to prevail.

In regard to treatment he said that, inasmuch as we know very little as to the real causation of the disease, it was very difficult to give an intelligent explanation as to the lines to be pursued. The eruption, however, we know, was of a congestive and inflammatory nature, and it appeared to be due to a sub-oxidation process closely akin to that found in eczema and other inflammatory diseases of the skin. Practically he had found that a line of treatment in accordance with this hypothesis would yield the best results, and, indeed, when faithfully carried out, was commonly very satisfactory. The alkalies, in large doses, not only served to mitigate the sufferings of the patient, but arrested the further development of the eruption. Acetate of potash, in combination with nux vomica and a bitter infusion, taken after meals, had served him about the best. He had also found very useful an empiric sort of a prescription of Boeck, of Norway, consisting of from ten to twenty grains of chlorate of potash dissolved in considerable water, directly after each meal; followed in half an hour by twenty drops of dilute nitric acid well diluted. After a cooling course of some such a more tonic treatment was often required, and there was nothing better than sulphate of iron with sulphate of magnesia and sulphuric acid, in what is known among dermatologists as Startin's mixture. Arsenic he thought of very little use in this eruption. Indeed, in the more acute stages it even seemed to aggravate it.

Locally something could be done by proper measures both in the way of relieving the general suffering and checking the disease. Among the applications mentioned were calamine and zinc lotions, carbolic acid and glycerine, and a ten per cent. solution of ichthyol. Carbolized vaseline served admirably in certain cases. Unna had claimed to cure his cases by local measures entirely, and the main remedy that he used was bichloride of mercury. Dr. Bulkley was sceptical about cures being effected by this agent alone, but in many cases it acted well, in the proportion of two or three grains to the ounce of zinc or diachylon ointment. A good combination was the following:

R. Acid. carbolic	gr. xx.
Hydarg. bichlor.	gr. ii-v.
Ung. diachylon	3 <i>l.</i>

As to bathing, plain water baths were injurious rather than beneficial, but medicated baths were of considerable service, such agents as starch, bicarbonate of soda and borax being called for in this connection.

No special diet was of any service whatever in this disease.

DR. A. R. ROBINSON said he differed in one or two points from Dr. Bulkley. Thus, as to the case of diagnosis. In well-marked, classical cases the diagnosis certainly was easy enough; but there were other cases in which the diagnosis could only be made after a considerable number of consultations. He had frequently seen the best dermatologists and syphilographers puzzled, and it was only by continued watching and a careful study of the anatomical, pathological features that a proper conclusion could be arrived at in such cases. He thought we would not make much progress in the treatment of lichen planus until we knew more about the etiology of the affection. Personally he believed it to be a parasitic disease, and in the treatment he preferred the use of salicylic acid to Unna's bichloride method. The prognosis, as Dr. Bulkley very properly stated, must be guarded.

DR. OBERNDORFER said he had had considerable experience with this disease, and, like Dr. Robinson, he was convinced that it was sometimes extremely difficult to make a differential diagnosis. He referred to one case which closely resembled ichthyosis and another presenting the appearances of herpes zoster, and laid special stress upon the waxy appearance of the papules in lichen planus as a valuable sign. He thought it rather a bold statement of Dr. Bulkley's that all dermatologists were now agreed that lichen planus and the acuminate form of lichen were entirely different affections. He believed that they were, in fact, often different stages of the same disease. As to the treatment, he had seen cases cured by Unna's ointment, with the addition of sufficient carbolic acid to relieve the itching, and he had also seen other cases rapidly cured under the use of arsenic alone.

DR. BULKLEY said the fact that in certain cases, like the one referred to by Dr. Oberndorfer, the lesion was situated in the position of herpes zoster would argue very strongly against the parasitic origin of the disease, since the eruption appeared along the line of the intercostal nerves. He believed that in certain instances a cure could be effected by local measures alone, but he could by no means agree that this was any argument for the parasitic origin of the disease; because it was well-known that remedies applied locally often had an effect upon the nerves beneath. As he had stated in the paper he had never had any success with the use of arsenic in this affection, but possibly he had not given it a sufficient trial, although he certainly was not afraid of this remedy. Dr. Oberndorfer was mistaken in supposing that he had stated that all observers now thought lichen planus and lichen ruber to be different diseases. At the recent Congress in Berlin both sides were presented, and he was among those who argued against the identity of the two.

(To be continued.)

— The Prince of Wales, on one of his visits through the wards of a hospital, stopped to ask a patient in bed number three if he had anything to complain of. "Nothing, your Highness," said the patient, "except that I should like to be in bed number one." "Why?" asked the prince, "Because," answered the man, "the surgeon every morning on his rounds sticks his finger first into a wound in number one's leg, then into the rectum of number two, and then down my throat, I should like it much better if I were number one."

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KOCH'S TREATMENT FOR TUBERCULOSIS.

THE public has now had an opportunity to acquaint itself with all that can be positively affirmed up to the present time as to the treatment for tuberculosis which Dr. Robert Koch, of Berlin, has for some time been known to be perfecting, and in regard to which so many vague rumors have of late been in circulation. A translation of Koch's own communication on the subject to the *Deutsche Medicinische Wochenschrift* (November 14, 1890) has been accessible to every one in the columns of the daily press, as well as in those of the *Philadelphia Medical News* and the *British Medical Journal*.

The communication exhibits Koch's characteristic caution and scientific spirit, but confirms an impression we had previously entertained, that the coincidence of the meeting of the International Medical Congress in Berlin, this last summer, forced Koch's hand, as it were, and led him to an earlier public announcement of his work than he otherwise would have wished to indulge in; and this first step has again naturally forced him to a second, which, under the circumstances, can hardly be called premature, but is, undoubtedly, an earlier and more public commitment than he himself would have preferred.

Probably no other name than Koch's, not even excepting Pasteur's, would carry so much conviction to the sceptical mind in regard to a question of the kind under consideration, and his affirmative statements must be allowed to weigh heavily against *a priori* reasoning, against previous knowledge and experience. Moreover, if one recalls Koch's own stringent animadversions upon Pasteur in the past for the latter's earlier and hasty conclusions as to discoveries concerning anthrax and hydrophobia, there should be a feeling of additional security in that he himself would continue to bear in mind the great temptations to such errors.

As regards the origin and preparation of the remedy, no statement is yet made, as the research is not yet concluded. We are simply told that the remedy is a

brownish, transparent liquid, which does not require special care to prevent decomposition, but the dilutions necessary for use are liable to undergo decomposition if prepared with distilled water. The place chosen for the injection, after several trials of other places, was the skin of the back between the shoulder-blades and the lumbar region, because here the injection led to the least local reaction, and was almost painless. A new proof for the experimenter of the all-important law, that experiment on animals is not conclusive, is the fact that the human patient proved extraordinarily more sensitive than the guinea-pig; calculated by body-weight, one-fifteen-thousandth part of the quantity which has no appreciable effect on the guinea-pig acts powerfully on the human being.

Neither the healthy human being nor those affected with other diseases than tuberculosis react to the injection, or, if at all, only to a very slight degree. If this is confirmed by further experience, it may, of course, prove a valuable aid to differential diagnosis, especially in cases in which neither physical examination nor the presence of bacilli can be appealed to. In the tuberculous the general reaction begins four or five hours after the injection and lasts twelve or fifteen hours; it is accompanied by fever, pain in the limbs, coughing, great fatigue, often sickness and vomiting.

The action of the remedy can be best observed in external tuberculous affections, and especially in lupus; in these a speedy cure is said to be effected in recent and slight cases, a slow improvement in severe cases. Let us not forget, however, how short a time has elapsed since these experiments were begun.

Patients with decided pulmonary tuberculosis are reported as more sensitive to the treatment than those with surgical tuberculous affections. The action of the remedy in cases of phthisis generally showed itself as follows: Cough and expectoration were generally increased a little after the first injection, then grew less and less, and in the most favorable cases entirely disappeared. The expectoration also lost its purulent character and became mucous. As a rule, the number of bacilli decreased only when the expectoration began to present a mucous appearance. They then entirely disappeared, but were again observed occasionally until expectoration completely ceased. Simultaneously the night-sweats ceased, the patients' appearance improved, and they increased in weight within from four to six weeks.

Patients under treatment for the first stage of phthisis were freed from every symptom of disease and might be pronounced cured; patients with cavities not yet too highly developed improved considerably and were *almost* cured, and only in those whose lungs contained many large cavities could no improvement be proved. Objectively, even in these cases the expectoration decreased and the subjective condition improved. These experiences have led Koch to suppose that phthisis in the beginning can be cured with certainty by this remedy. This statement requires limitation, he admits, in so far as at present no conclusive

experiences can possibly be brought forward to prove whether the cure is lasting.

The treatment, it is thought, will probably be quite simple in the beginning of phthisis and in simple surgical cases, and this would make early diagnosis all the more incumbent. At the same time, Koch himself, we are glad to note, takes occasion to utter an earnest warning against a conventional and indiscriminate application of the remedy in all cases of tuberculosis. He recommends the practice of the treatment in hospitals and sanitaria, and is still impressed with the importance of surrounding the patient with all the safeguards of medical supervision and all the adjuvants of a suitable hygiene.

It seems that the remedy does not directly attack the bacillus itself, but destroys the tissue in which the bacillus has taken up its abode and this necrosed tissue must subsequently, in some way, be eliminated or removed. It should be distinctly understood that there is no pretense that tissues which have been destroyed can be reconstructed.

The attitude of the profession towards this question should be one of candid and intelligent expectancy. The demonstrator of the bacteriological laboratory of the Harvard Medical School, Dr. Harold Ernst, is now on his way to Berlin, as are representatives of similar departments in other schools elsewhere, and the JOURNAL will shortly be in a position to give its readers reliable and interesting details as to the results attending a further experience with and investigation of Koch's discovery. Until such are at hand it is enough that we should prepare ourselves soberly for the possible acclamation of the greatest advance in medical therapeutics of modern times—a far more grateful ceremony than the veiling of a scientific idol.

THE PATHOLOGY OF THE BLOOD.

At the recent meeting of the Italian Society of Internal Medicine (Third Congress) held in Rome, October 20-23, 1890, the subject of the "Pathology of the Blood" was under discussion.

DE RENZI, the referee, affirmed that the pathology of the blood is so vast as to include almost all diseases, even the functional nervous affections, in which, as is known, alterations of the blood have also been noticed. At the present time, the most salient fact of hematology is the presence of microbes in the blood of infectious diseases.

In the normal state, the blood contains no microbes, although it may contain certain chemical ferment, as, for instance, peptones which have been considered as the result of the biological activity of microbes. In certain particular conditions, when, for example, there is a fall of temperature by inanition, a person healthy in all other respects may present microbes in the blood. Prolonged fasting seems, then, to enfeeble phagocytosis, and Canalis has succeeded in inoculating animals subjected to inanition with diseases to which in the normal state they are refractory.

The micro-parasites, which have the property of developing and of living in the blood, are such as the bacteria of charbon and the spirilla of recurrent fever. We must add, also, the plasmodia of malaria, which are not, properly speaking, microbes, but haematozoa.

The bacilli of tuberculosis, of lepra, of diphtheria, and of tetanus, as well as the staphylococci and streptococci, are not ordinarily found in the blood, but they may penetrate thither in certain special conditions.

During the death agony blood also contains bacteria.

Modern researches tend to demonstrate that the blood possesses very pronounced microbicidic properties, which certain authorities attribute to the serum. From his own experiments, and those of Pane, he thought it proved that the anthracoid virus is enfeebled in contact with the blood, but he himself attributes this sterilizing influence of the blood to the atmospheric oxygen. He emphasizes the fact that, in order to undergo rapid development, the microbes demand a special receptivity of the organism, and that they are disseminated throughout the latter, not by the way of the blood, but rather by capillarity; or, to use another expression, by a sort of impregnation of the tissues (?). At the present time, the pathology of the blood presents many obscure questions, but great progress has been made, both from the point of view of diagnosis (instance the spirilla of recurrent fever, the plasmodia of malaria), and that of treatment (instance the intravenous injections of quinine in malaria).

MARAGLIANO, the co-referee, asked whether there exist diseases of the blood properly so-called, or are these diseases rather the consequence of a trouble in the functions of the hematopoietic organs? Most authorities incline to the latter hypothesis, and do not admit a morbidity proper to the corpuscles. In his opinion, the red corpuscle, when once it has entered the circulation, preserves no longer any relation with the hematopoietic organs. From a physiological point of view, it possesses a certain independence, even when transfused into the veins of another animal, the blood corpuscle may live for several days an independent life in its new environment. But from the moment that you allow to the red corpuscle such a physiological individuality, why deny it all pathological individuality? Why not admit the existence of a real pathology of the blood?

He (Maragliano) had observed alterations of the red globule characteristic of its slow death. These alterations are first intra-globular; they manifest themselves by a decoloration, which begins in the centre, then ramifies and extends to the totality of the globule, giving rise to the formation of microcytes and poikilocytes. In the normal state, the red globule is *acidophilic*, but, in the course of its necrobiosis metamorphoses, it becomes *basophilic*.

The hemoglobin being the product of the biological activity of the protoplasm of the red corpuscle, it is easy to understand the intimate connection which exists between the decolorations and the alterations of the form of the globule.

The alterations, which are observed in the corpuscles when removed from the current of the circulation, are also met with in certain diseases. He has noticed in all forms of anæmia the existence of a globular necrobiosis in different degrees. Moreover, there is an infectious disease localized, so to speak, in the corpuscles. This is malaria, in which we find the most marked alterations of the red corpuscles, and which should not be identified with the parasite of malaria itself, whose presence in no way excludes the supervention of these intra-globular alterations.

In his researches on the action of normal and pathological serum on the corpuscles, he has found that sound, red corpuscles are destroyed when placed in a serum pathologically altered, while, on the contrary, corpuscles invaded by microbes tend to revive and take on a more healthy aspect in normal serum.

These experiments show that pathological alterations of the blood-serum, under the influence of disturbances of the nutrition, may have for their consequence the microbicosis of the corpuscles. They explain also why the appearance of anæmia is so often preceded by digestive troubles, and why atrophy of the mucous membrane of the stomach is so frequently found in the autopsies of anæmic subjects. The alterations of the blood-serum and of the corpuscles may also be produced by nervous influences, as happens in anæmia consecutive to violent emotions.

Blood-serum when pathologically altered, appears also to have a deleterious action on the leucocytes.

In the discussion which follows, FILETTI remarked that the plasmodia of malaria, when they have been stained, offer a very characteristic nucleus, which enabled one clearly to distinguish the parasite from the intra-globular alterations of the red corpuscles.

MYA insisted on the diagnostic importance of the secondary leucocytosis observed in cancer of the stomach and which often precedes the physical signs of the affection.

CATELLO has found that in acute pneumonia the microbicidic action of blood-serum is very pronounced, while it is considerably diminished in diabetes.

ROVIGHI has found that the microbicidic action of human blood varies according to the microbes. It is, for instance, considerable with respect to the bacilli of typhoid fever, and less in respect to the staphylococcus aureus. It diminishes in dyscrastic states with destruction of the red corpuscles, and varies according to temperature, being destroyed by very high or very low temperature.

In response to the question how he accounted for the microbicidic action of blood-serum, Maragliano replied that he had to confess his ignorance.

In an interesting paper on the physico-chemical alterations of the blood in certain acute infectious diseases, SCIOLLA, of Genoa, said that he had invariably found the density of the blood to diminish during the febrile process, and to rapidly augment when convalescence was established. The albuminoid elements of the blood diminish in pneumonia, typhoid fever, ma-

larial fever, and chloro-anæmia. In pneumonia the extractives increase during the acute stage, while in typhoid fever these substances diminish progressively during the entire febrile period, and even during a part of the convalescence.

Doubtless what most impresses one when reading such discussions as the above is the admission by authorities, the most competent to speak on these matters, that the pathology of the blood is still a vast *terra incognita*.

THE MEDICAL EXAMINER VS. THE CORONER.

THE system of medical examiners which we enjoy in Massachusetts is so satisfactory, and works so easily and quietly, that we are apt to forget the old days of the coroner and his bungling system, until our attention is called to him from communities where he has not yet been abolished. To any one who, in any capacity, is brought in contact with cases of sudden death in this State, the immense advantages of the medical examiner system are self-evident. As far back as 1881 the New York Medical Society, after listening to an exhaustive paper on the subject by Clark Bell, Esq., passed a resolution advising legislation in that State similar to the law then recently passed in Massachusetts. Mr. Bell has recently read his paper again, and it appears in the *Medico-Legal Journal* for September, 1890, and his argument is as timely now as then, in fact it now has the advantage that the Massachusetts law, having been in operation nearly ten years longer, has passed beyond the stage of an experiment.

MEDICAL NOTES.

—The French steamer *La Normandie* which arrived in New York on Monday had small-pox on board. Over four hundred steerage passengers were detained at quarantine.

—The New York Academy of Medicine will formally open its new building on Forty-third Street on November 20th. Dr. A. L. Loomis will give an address of welcome, Dr. E. L. Keyes will deliver the anniversary address, and Dr. Abraham Jacobi will speak about the library. Many invitations have been sent out. The building cost a quarter of a million and is free from indebtedness. The library, which is free to the public, contains over fifty thousand volumes.

—Dr. E. C. Spitzka read a paper before the Medico-Legal Society on Electrocution, in which he expressed a personal preference for the guillotine, but also his opinion that electricity was practically serviceable. His recommendations as to methods agree in general with those contained in the report of Dr. C. F. Macdonald to the State.

—The trustees of the Johns Hopkins Hospital recently tendered a reception to the members of the various local committees of the Women's Fund for the Medical School. Prominent women from all parts of

the country were present. The sum of \$100,000 has already been subscribed, and will be invested until it has accumulated to \$500,000, when the school for women will be opened.

BOSTON AND NEW ENGLAND.

—Governor Brackett has nominated Henry W. Dudley, M.D., of Abington, to be medical examiner for the second Plymouth district, vice Dr. J. C. Gleason, deceased.

—There is a common impression that the Boston Provident Association and the Associated Charities are one and the same society, whereas they are quite distinct, each having its own constitution, rules of management, officers, visitors, collectors, and methods, quite independent of the other. The error of considering them identical is fruitful of no little misunderstanding and vexation, sometimes causing delay in giving needed relief.

—Dr. Hosea N. Quinby has been appointed superintendent of the State Lunatic Asylum at Bloomsbury near Worcester, in place of Dr. John G. Park, resigned.

—Dr. Harold Ernst sailed for Berlin Wednesday, November 19th, in order to investigate Koch's new method for the treatment of tuberculosis.

Miscellany.

PHOSPHORUS NECROSIS.

A COMPLETE study of phosphorus necrosis is given in a paper by Heeckel,¹ who has had an especial advantage to observe the disease in the surgical clinic at Jena, where there have been fifty-six cases within a few years.

The most common cause is a prolonged breathing of fumes of phosphorus by employees of match factories. It begins as a purely local affection, due to the local action of the phosphorus on the jaws, especially in the presence of carious teeth. Several patients, after being entirely cured of this local necrosis have worked for years at the same trade without any symptoms. Although the author has become convinced that the process never originates from the constitutional effects of phosphorus poison, he admits that a great tendency to fracture of bones is met with in persons exposed to the fumes.

The process begins as an ossifying periostitis, more often of the lower jaw, soon involves the bone in the inflammatory process, which finally necroses. The destruction tends to spread, and produces constitutional disturbance by suppuration. The average duration of the disease, if left to itself, is about three years. Seventy-nine per cent. of untreated necrosis of the lower jaw resulted in the loss of the whole jaw-bone. On the upper jaw the process is generally not so extensive but is much more fatal.

The death-rate of all untreated cases was forty-five per cent. The best treatment is early resection of as much of the jaw as is diseased. The danger of exten-

¹ Archiv. für Klin. Chirurg., Bd. xxxix, p. 555.

sion of the process after resection, mentioned by earlier authors, was not met with. The mortality of the cases operated on was much less, and the duration of the disease much shortened.

TREATMENT OF ERYSPIELAS.

DR. ULRICH,¹ a Danish military surgeon, having had eighty-nine cases of eryspelas of the face in young soldiers, has published in a comparative table the results of the three different methods of treatment which he adopted, namely, the application of ice compresses, painting with pine tar, and painting with a solution of ichthyl in its own weight of ether and double its weight of flexible collodion. Thirty-three cases were treated by the first method; in twenty of these the eryspelas spread considerably, in four slightly, and in nine not at all. Twenty-seven cases were treated with tar; in fourteen of these there was much spreading, in one a little, and in twelve none. Twenty-nine cases were treated with ichthyl; in these the spreading was considerable in eight cases, slight in six, and in fifteen there was none. The mean duration of the disease under the ichthyl treatment was 6.88 days, while under the ice and tar methods it was 8.33 and 9.3 days respectively. The relapses, too, were decidedly less numerous under ichthyl than under either of the other plans. Dr. Ulrich suggests that still better results might be looked for if the ichthyl were painted not merely over the affected parts, but over a considerable portion of the surrounding skin.

LAPAROTOMY UNDER COCAINE.

A WOMAN, aged forty, says the *British Medical Journal*, November 1, 1890, was admitted to the Cumberland Infirmary. She had for some years suffered from a tumor in the right side of the abdomen. Her abdomen became distended and very tender; she vomited frequently; her loss of strength increased day by day. Her condition seemed so extreme that she might not recover from a general anesthetic, so Dr. Maclarens proposed to try if the operation could be done with cocaine. A twenty per cent. solution was used, and of this twelve minimis were injected. Two punctures were made, and the solution injected drop by drop along a line two inches, just under the skin, except for the last two drops, which were injected into the deeper tissues. Five minutes were allowed to elapse, and an incision was then made two inches above and parallel to Poupart's ligament. There was no difficulty in doing the operation; the patient never moved. The peritoneum was studded with malignant nodules; a mass of malignant tissue (omentum) adhered to the abdominal wall. The bowel was not distended, and it was evident that nothing could be done, so the wound was sewn up. The patient died four days after, the course of her illness being uninfluenced for good or evil by the operation. What the patient felt during the operation was very trifling. When questioned she said that it was nothing compared to her sufferings during the previous few days, that it was not greater than she had suffered in her confinements, which had been easy ones, and that what she felt most was the

stitching. The introduction of the finger and the passage of a glass tube in various directions to allow fluid to escape were quite painless. At Dr. Maclarens' request she turned herself on her side to allow the fluid to gravitate to the opening, and afterwards said she felt it running out, and thought it was blood. She was a very thin woman, which no doubt made the use of the cocaine more efficacious and the operation easy. Post-mortem examination showed much malignant disease of the peritoneum and omentum, and a distended gall bladder containing numerous stones, one impacted in the duct. The condition of the wound was perfect.

CHINESE MEDICAL PRACTICE AND PRACTITIONERS.

AN interesting and amusing paper on this subject by Dr. Joseph C. Thomson appears in the *China Medical Missionary Journal* for September, 1890.

There are practically no medical schools in China, and nothing to prevent any one from advertising himself as the eminent Dr. Blank; but the doctor by famous descent, is the most respected. In the Chow dynasty the public was warned against rashly swallowing the prescriptions of any physician whose family had not been in the medical profession for three generations. If the patient be an important person the diagnosis, prognosis and treatment must be written down; and if the doctor has made a mistake, he must answer for it in court. As no dissecting is allowed, there is no knowledge of anatomy. Nevertheless, acupuncture is a favorite therapeutic procedure. Long needles are run into the body in all directions, and driven home with a mallet. The Chinese *materia medica* is well-known to contain many curious things. A few prescriptions are given. A mixture of cinnabar, saltpetre, horse and turtle urine applied to a tooth will remove it. For a sore eye, put one-half of a chicken over the eye, and eat the other half. When a child grinds its teeth during sleep, the mother should buy a pig's tail, cook it ready for the next time, when she should slap the tail on the face several times, after which he must eat it. For cholera—a god-like recipe—take an earthen spoon, rub it with tea-oil, rub the spine of the sick person with it till small black spots appear, pierce them with a needle to the bone, then apply a burning lamp-wick; for an adult the following, one cup salt heated in an iron spoon mixed with ginger-juice, boy's urine and cold water.

In matters connected with pregnancy and child-birth Chinese ideas are especially curious. A pregnant woman must not eat turtles, chickens or ducks. She must not see a rabbit or a house which is being repaired. The child is supposed to act according to its own pleasure as to speedy or tardy coming into the world. "A good and filial child leaves the mother's womb in the time in which a man rubs his two fingers together," while an obstinate demon may require days, or even years before it is brought forth. A famous physician of old, afterwards deified on account of his diagnostic skill, was once called to attend one of the empresses in a case of difficult labor, which had baffled the court physicians. By means of a rope of considerable length (he was not permitted to see her) attached to the imperial wrist, he pronounced it, from the pulse indication, a case of the fetus grasping the heart of the mother, and recommended acupuncture,

¹ The Lancet, November 1, 1890.

which caused the child to loose its hold, and so the empress was quickly delivered. The Chinese midwife is very active, and does a great deal of harm. She is governed by a large number of rules, such as, "an arm presenting, the midwife may pinch it or put salt on it, to cause it to be drawn back, or it may be pulled off in time." To guard against cross-birth the woman must eat the ashes of the husband's hair. To wean a child, paint the mother's breasts with India ink, and the child when he sees it will be afraid, and so refuse the breast.

The unfortunate condition of medicine in China can perhaps best be appreciated by quoting a few proverbs. "If the medicine does not cause dizziness, you will not recover from your sickness." "Out of ten men eleven have the itch." "Pock-marks are marks of beauty." "Nine of every ten have fistula." "The ordinary physician kills men." "The good medicine is bitter." "In a dangerous illness call in three doctors."

Correspondence.

[From a Special Correspondent.]

LETTER FROM ITALY.

TURIN, October, 1890.

THE UNIVERSITY OF BOLOGNA.

EVEN in Italy's darkest days, when any intellectual life was very nearly dead, the old University of Bologna kept alive a little interest in medical science, and held a little of the reputation it had when Galvani within its walls demonstrated the contraction of the frog's muscles to the electric current. At the present day, when Italy has shown that she is not only once again a great nation, but is able also to make again no mean contribution to the knowledge of the world in medicine, as well as in other branches of knowledge, the old university, now entering upon its ninth century, is still true to its old motto "Bono docet." In its faculty to-day is Carducci, one of the chief poets and men of letters in the kingdom, whose ode to Piedmont has just appeared as a tribute to the twentieth anniversary of the taking of Rome; and, true to the old custom of the Middle Ages, in vogue before Harvard existed or was vexed by questions of co-education, it has, as lecturer on pathology, a young woman whose scientific attainments are said to be supplemented by marked beauty, although unlike a professor of the old days, Novella d'Andrea, she does not lecture from behind a curtain.

THE HOSPITAL OF BOLOGNA.

I visited Bologna, however, during the vacation, so that I had no opportunity to see the University in operation or to attend any lectures, but through the kindness of Dr. Biondi, professor of surgery, who had just returned from the Congress at Berlin, I was enabled to visit the chief general hospital of the city, the Ospedale San Orsolo, of which Dr. Murri, professor of clinical medicine, is the director. The hospital lies just without the city walls, with a beautiful outlook over a broad sweep of open country to the hills that surround the city. It is a large, two-story building, or group of buildings, covered with the familiar buff stucco and adorned with numerous open porticos. Printed on a poster which was on the outer wall by the entrance, was a sonnet inscribed by a grateful patient to one of the surgeons who had recently done a successful nephrectomy — a method of showing gratitude not common with us. On the corridors within I noted, among other memorial tablets, one to Valsalva, once connected with the hospital. The hospital has about two hundred patients, but only half of it is used. For three or four months in the summer the wards of the lower story are used, while the upper

story undergoes a thorough renovation. The rest of the year the wards in the upper story are in use, the physicians considering that the ground floor is too much exposed to cold and dampness. The hospital is thus practically a double one. Hard-finished walls and floors of Venetian cement set thick with small pebbles, afford no lurking-place for the microbe. The beds were the familiar iron bedsteads, with woven wire bottoms and good mattresses on top. Wide windows gave plenty of light, and the ventilation was excellent, while gardens and porticos gave the patients plenty of opportunity for out-door recreation. In all minor details the hospital seemed fully up to date, although I saw there nothing absolutely new in the methods employed. Among other interesting cases I may mention one of a boy whose brain had been penetrated by a bull's horn, which entered and extensively lacerated the right frontal lobe. The fragments of bone had been replaced, and with the exception of a slight hernia cerebri, the boy was doing well, and the only symptom observed was that for a month he constantly demanded food, even immediately after his meals.

I will speak later of some of the Italian asylums I visited. Of the other general hospitals I saw but little; although I was interested in visiting the hospital in Florence, with mediæval frescos adorning its entrance, and with two very long, very high, and quite narrow wards crossing each other at right angles, much like the ground plan of the churches, a part of the original hospital founded in 1288, by Folco Portinari, father of Dante's Beatrice.

CRIMINAL ANTHROPOLOGY.

Turin is of interest as being the centre for the study of criminal anthropology, in which new branch of science Italy is the leader. "If you are curious to know the criminal thoroughly, the innate and incorrigible criminal," writes Tarde, a recent French writer on the subject, "read the last edition of Lombroso's 'L'Uomo delinquente,'" of which the fourth edition, in two huge volumes, has recently appeared. The literature of this new science has already attained formidable dimensions, and many other Italians, Tenchini, Garofalo, *etc.*, and others, have published important works; an international congress has held several meetings, and the *Archivio di Psichiatria e Scienze Penali*, edited by Lombroso, is now in its eleventh year. Of late, interest in the subject has spread, and within the last year or two it has obtained a footing in English journals, the *American Journal of Psychology* having devoted a department to it. Through the kindness of Professor Lombroso, I was permitted to visit his laboratory and to examine there his collections relating to *l'uomo delinquente* and to accompany him to the prison to see the criminal himself. The University of Turin is unique in having a criminal clinic, for Professor Lombroso summons to his lectures discharged criminals, and illustrates to his classes the types of the criminal. In the brief space of this letter I cannot begin to condense the two huge volumes of Lombroso's work, but in his laboratory may be seen many objects illustrating the criminal: photographs of the criminal of all types, brigands, assassins and thieves, skulls showing the types of degeneration presented by the criminal, specimens of criminal handiwork, including rough but curious sketches made on the earthen water-jugs which they have in their cells, and, finally, many drawings of the tattooings of criminals, to which Lombroso devotes a long chapter, and — tell it not at Tewksbury — certain portions of skin showing actual tattooings. At the prison, of which Lombroso is the physician, all the new arrivals are inspected, and various anthropological details are noted, the color of the hair and eyes, facial asymmetry, the character of the lower jaw, the ears, the shape of the head, the length of the arms, genitals, etc. Unfortunately, I omitted to ask whether any system of elaborate measurement, like that employed in Paris by Berthillon, and recently introduced into our State Prison, was in vogue. After this inspection of the new arrivals the usual visit to the sick prisoners was made, and I again had the opportunity to note some of the more striking physical peculiarities of the criminal, as a

specimen of degenerate man. Dr. Ottolenghi, one of Professor Lombroso's assistants, under Lombroso's advice, has been making an elaborate study of the visual field, especially in female criminals, and has found very curious sector-like defects and limitations therein. To one who has lived among the inmates of a large prison and has had the opportunity to watch the criminals day by day, and to grow familiar with the criminal type of face, it is easy to accept Lombroso's teachings, and to see in the criminal only another type of physical and psychical degeneration, not wholly different from other forms of degeneration as seen in the epileptic or the paranoiac.

PELLAGRA.

Of the curious disease, pellagra, peculiar to Italy, I saw little, as it is more prevalent in the spring, and is less common in the cities. In the preface to his "L'Uomo Delinquente," Lombroso remarks that the protracted and thorough study which he gave to this subject met with much greater opposition and much less renown than his necessarily incomplete and less satisfactory work upon the

criminal. After many years of research he established what is now generally accepted, that the disease is due to poisoning from diseased maize, and he succeeded in isolating a substance which produced symptoms of pellagra when given to animals. In its onset it is characterized by nausea, vomiting, intestinal catarrh, fever, malaise, and a curious erythema most marked on the backs of the hands. Later it produces various nervous symptoms, peripheral neuritis, pareses, mental disturbances, and symptoms of disease of the cord. I saw various cases of pellagra insanity — a form of mild melancholia which is often curable in a few months; and I also saw several specimens of the spinal cord from cases of pellagra, showing combined sclerosis of the posterior and lateral columns. Judging from Italian works on nervous diseases it is a factor in the etiology of about as many different forms of nervous disease as syphilis or alcohol. Certain interesting studies on the muscular strength of patients with pellagra made with the apparatus of Mosso at the asylum in Turin show that there is a marked loss of strength, and especially of the power of combined effort.

P. C. K.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 8, 1890.

CITIES.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	671	226	15.84	17.60	3.84	3.20	1.60
Chicago	1,100,000	—	—	—	—	—	—	—
Philadelphia	1,061,277	384	107	13.50	10.26	8.10	.54	2.16
Brooklyn	882,467	340	109	17.69	12.18	6.67	2.61	3.77
St. Louis	550,000	144	46	15.18	11.04	5.32	5.52	2.76
Baltimore	500,343	142	50	17.50	14.00	9.80	2.80	1.40
Boston	445,507	174	47	9.28	15.34	2.32	2.32	3.48
Cincinnati	325,000	—	—	—	—	—	—	—
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	94	26	19.05	15.90	10.60	1.06	5.30
Nashville	68,513	30	8	20.00	10.00	3.33	6.66	10.00
Charleston	60,145	35	11	8.58	20.00	2.86	2.86	—
Portland	42,000	5	1	—	—	—	—	—
Worcester	44,538	—	—	5.88	11.76	—	5.88	—
Lowell	77,005	24	7	33.33	4.17	4.17	4.17	20.85
Fall River	74,351	30	14	29.97	6.66	3.33	16.66	10.00
Cambridge	69,837	27	4	—	25.00	—	—	—
Lynn	55,684	—	—	—	—	—	—	—
Lawrence	44,559	11	2	27.27	18.18	18.18	—	9.09
Springfield	44,164	10	5	20.00	10.00	10.00	—	10.00
New Bedford	40,705	17	4	—	5.88	—	—	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	12	2	25.00	16.66	—	—	8.33
Chelsea	27,850	9	1	—	—	—	—	—
Haverhill	27,392	9	4	11.11	22.22	11.11	—	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	7	3	—	—	—	—	—
Newton	24,375	12	—	16.66	—	—	—	16.66
Marlboro	22,984	4	1	—	—	—	—	—
Fitchburg	22,007	9	5	22.22	—	—	22.22	—
Gloucester	21,262	6	1	50.00	—	16.66	—	16.66
Waltham	18,522	4	0	—	—	—	—	—
Pittsfield	17,282	4	1	25.00	—	25.00	—	—
Quincy	16,711	4	1	—	25.00	—	—	—
Northampton	14,961	—	—	—	—	—	—	—
Newburyport	13,914	2	1	50.00	—	50.00	—	—
Marlborough	13,788	2	0	—	—	—	—	—

Deaths reported 2,239; under five years of age 696: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 335, consumption 295, acute lung diseases 260, diphtheria and croup 122, typhoid fever 64, diarrhoeal diseases 60, scarlet fever 28, whooping-cough 22, malarial fever 15, measles 15, cerebro-spinal meningitis 8, erysipelas 4, puerperal fever 1.

From scarlet fever New York 1, Brooklyn 8, Philadelphia 6, St. Louis 1, Lowell and Gloucester 1 each. From whooping-cough, New York 10, Brooklyn 4, Philadelphia 3, Washington 3, St. Louis, Charleston and Salem 1 each. From malarial fever, New York and Baltimore 5 each, Brooklyn 4, Philadelphia 1. From measles, New York 15, Brooklyn and St. Louis 1 each. From cerebro-spinal meningitis, New York 4, Brooklyn, Salem,

Haverhill and Gloucester 1 each. From erysipelas, New York 2, Brooklyn and St. Louis 1 each.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,059, for the week ending November 1st, the death-rate was 22.1. Deaths reported 4,118: Acute diseases of the respiratory organs (London) 450, measles 159, diarrhoea 143, scarlet fever 76, fever 58, diphtheria 45, whooping-cough 43.

The death-rates ranged from 14.5 in Derby to 31.7 in Manchester, Blackburn 27.4, Bradford 19.3, Hull 19.0, Leeds 20.9, Leicester 19.9, Liverpool 23.7, London 21.4, Nottingham 16.4, Preston 31.7, Sheffield 24.1, Sunderland 17.6.

In Edinburgh 20.2, Glasgow 24.0, Dublin 25.3.

The meteorological record for the week ending Nov. 8, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*		Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
Saturday, Nov. 8, 1890.																
Sunday, . . .	2	29.79	30.0	35.0	42.0	76	84	30.0	S.W.	S.W.	11	12	O.	O.		
Monday, . . .	3	29.61	47.0	51.0	42.0	70	70	70.0	S.W.	S.W.	9	12	C.	O.	T.	
Tuesday, . . .	4	29.92	39.0	45.0	31.0	71	69	70.0	N.W.	N.W.	8	5	C.	C.		
Wednesday, . . .	5	30.24	42.0	53.0	32.0	67	73	70.0	S.W.	S.W.	6	16	C.	C.		
Thursday, . . .	6	30.24	42.0	61.0	41.0	83	69	70.0	S.W.	S.W.	12	3	C.	C.		
Friday, . . .	7	30.25	51.0	57.0	48.0	88	94	83.0	S.W.	S.W.	6	10	O.	C.		
Saturday, . . .	8	30.12	54.0	50.0	35.0	86	71	78.0	S.W.	S.W.	15	14	O.	C.		
Mean for Week.		30.62		55.0	40.0		78.0									

*O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 8, 1890, TO NOVEMBER 14, 1890.

By direction of the Acting Secretary of War, leave of absence for fourteen days is granted Captain WILLIAM D. CROSEY, assistant surgeon, United States Army. S. O. 259, Par. 2, A. G. O., Washington, November 5, 1890.

Captain LOUIS A. LAGARDE, assistant surgeon, United States Army, detailed as member of board of officers in connection with the World's Columbian Exposition, and will report by letter to Major CLIFTON COMLY, Ordnance Department, member of the board of control and management of the government exhibit to represent the War Department. S. O. 260, Par. 1, A. G. O., Washington, November 6, 1890.

By direction of the Secretary of War, Colonel BASIL NORRIS, surgeon, and Major GEORGE M. STEINBERG, surgeon, are appointed members of a Board of Officers, appointed to meet, at the call of the senior officer thereof, in San Francisco, Cal., to examine such officers of the Corps of Engineers as may be ordered before it, with a view of determining their fitness for promotion, as contemplated by the act of Congress, approved October 1, 1890. S. O. 261, Par. 5, A. G. O., Washington, November 7, 1890.

By direction of the Secretary of War, Lieutenant-Colonel CHARLES T. ALEXANDER, surgeon, and Major JOHNSON V. D. MIDDLETON, surgeon, are appointed members of a Board of Officers, appointed to meet, at the call of the senior officer thereat at the rooms of the Board of Engineers, Army Building, New York City, examining such officers of the Corps of Engineers as may be ordered before it, with a view to determining their fitness for promotion, as contemplated by the act of Congress, approved October 1, 1890. S. O. 261, Par. 4, A. G. O., Washington, D. C., November 7, 1890.

By direction of the Secretary of War, the extension of leave granted Major STEPHEN G. COWDREY, surgeon, in Special Orders No. 112, October 24, 1890, Department of Arizona, is extended fifteen days. S. O. 263, Headquarters of the Army, A. G. O., Washington, November 10, 1890.

By direction of the Secretary of War, the extension of leave of absence, on account of sickness, granted Major HENRY McELDERNEY, surgeon, in Special Orders No. 214, September 12, 1890, from this office, is further extended two months, on surgeon's certificate of disability. S. O. 263, Par. 28, A. G. O., November 10, 1890.

OBITUARY. RICHARD J. LEVIS, M.D.

Dr. R. J. Lewis died suddenly at his home, in Pennsylvania, on November 12th, aged sixty-three years.
Dr. Lewis graduated from the Jefferson Medical College, and in 1859 went to Philadelphia to study at the Philadelphia Hospital. During the rebellion he was a surgeon in two military hospitals in that city, and over 1,800 cases of amputation came under his care. He was afterwards surgeon to the Wills Hospital, and in 1867 was clinical lecturer on ophthalmic and aural surgery in Jefferson College. In 1871 he became surgeon to the Pennsylvania Hospital, continuing to fill that position until 1885, when he was made surgeon of the Philadelphia Polyclinic and College for Graduates. He was also surgeon to the Jefferson Medical College Hospital, to which he was elected in 1877, up to June, 1887, when he retired from active practice. He served as president of the Medical Society of the State of Pennsylvania in 1885. He was a prolific writer, and as a lecturer was clear and concise.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 15, 1890.

THOMAS OWENS, surgeon, ordered to the Museum of Hygiene, at Washington, D. C.

H. M. MARTIN, surgeon, detached from the Receiving-ship "Wabash," and ordered before Retiring Board.

P. M. RIXEY, surgeon, continued in charge of Naval Dispensary, at Washington, D. C., until November 20, 1891.

E. H. GREEN, passed assistant surgeon, promoted to surgeon, November 10, 1890.

HOWARD SMITH, surgeon, placed on the retired list, November 10, 1890.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

At the annual meeting of the Washington Obstetrical and Gynecological Society the following officers were elected for the ensuing term: W. W. Johnston, M.D., President; D. W. Prentiss, M.D., H. L. E. Johnson, M.D., Vice-Presidents; H. B. Deale, M.D., Recording Secretary; Geo. Byrd Harrison, M.D., Treasurer; G. Wythe Cook, M.D., Corresponding Secretary.

A PRIZE ESSAY.

Dr. J. G. Orton, Ex-President of the New York State Medical Association, has offered a prize of \$100 for the best short popular essay on some subject connected with practical sanitation, under the following conditions:

(1) Competition to be open to all.

(2) Essays to be forwarded to the Secretary of the Association, Dr. E. D. Ferguson, Troy, N. Y., not later than August 1, 1891, accompanied by the name of the author under separate seal.

(3) Examination and award to be made by a committee appointed by the Council of the Association.

(4) The winning essay will be read at the next annual meeting of the Association and, if approved by the Council, to be offered for publication in the secular press, and issued in tract form, or otherwise, for general circulation.

(5) Authors of essays, unsuccessful as far as the prize is concerned, but found worthy of special commendation, to receive intimation as to a proper disposition to be made of them.

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, November 24, 1890, at the Medical Library, 19 Boylston Place, at 8 o'clock P. M.

Papers: Dr. J. C. Warren, "The Parasitic Origin of Cancer"; Dr. C. B. Porter, "The Removal of the Appendix during a Remission in Cases of Recurrent Attacks of Appendicitis."

G. G. SEARS, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

The Rotary Element in Lateral Curvature of the Spine. By A. B. Judson, M.D., New York. Reprint. 1890.

Seventh Biennial Report of the Board of Trustees of the State Charitable Institutions of the State of Kansas. 1890.

Henry J. Bigelow, M.D., LL.D.**THE MEMORIAL MEETING OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.**

A SPECIAL MEETING of the Society was held in the hall of the Medical Library Association on Wednesday, November 19, 1890. The meeting was opened by the President, Dr. W. L. RICHARDSON, who called Dr. R. M. HODGES to the chair.

Addresses were made by Dr. R. M. Hodges, Dr. O. W. Holmes, Henry Lee, Esq., Prof. D. W. Cheever, M.D., and Dr. Hasket Derby. Letters were sent by Prof. R. H. Fitz, M.D., and Dr. A. T. Cabot.

Dr. R. M. HODGES, on taking the chair, spoke as follows:

The death of Professor Henry Jacob Bigelow removes from this community a distinguished and familiar presence, which for more than forty years has enhanced the prestige of the City of Boston, and added a lustre to her institutions of education, benevolence and art.

The stirring and industrious professional life, which has ended so gradually and serenely, began with all the excitement of sudden and assured success. Two years after the completion of his medical studies in Europe, Dr. Bigelow was made Visiting Surgeon of the Massachusetts General Hospital, and three years later was appointed Professor of Surgery in Harvard University. Fresh from the inspiration of the then novel instruction of Sir James Paget, Dr. Bigelow rose far above the plane of his predecessors as an instructor in scientific surgery, not merely as the result of his aptness in imparting knowledge, but because, in this part of the world, he was one of the first pioneers—if not absolute leader—in the study of surgical pathology, as well as one of the earliest and profoundest delvers in the mines of elaborate microscopy.

His unequivocal success as a teacher was accentuated by his graphic modes of expression, his felicitous illustrations, his clear perception of essential realities, his self-reliant audacity and indifference to conventional rules, the peculiarity of his abundant humor, and his skill in black-board drawing. His remarkable manual dexterity was attractive to physicians as well as pupils; but his impromptu lectures in the ward, the accident-room, and the amphitheatre, his definitive rules of procedure in cases of common injury, his lucid explication of diagnostic points, and his reiterated exposition of every detail embodying a principle, illustrated his rare capacity for conveying information and indelibly impressing it on the minds of listeners. It may almost be said that these passing lessons have been of more value to surgeons in this vicinity than even his unrivalled demonstrations of the anatomy of dislocations of the hip-joint and fractures of the neck of the thigh-bone, or the most brilliant exhibition of his far-famed operation of litholapaxy.

His career as a surgeon began simultaneously with the discovery of anaesthesia by sulphuric ether. Quick to perceive the magnitude of this discovery, to appreciate its comprehensive value, and foresee its merciful possibilities; unhesitating when his seniors were timid or jealous. Dr. Bigelow, though then only twenty-seven years of age, took a most decisive and energetic part in securing its adoption into use. If he was bold in that crucial period, his boldness was the sublime courage of wisdom. If he trod the way fearlessly,

and (as it seemed to some of his elders) too impiously, this was because he knew his ground as no other man knew it at that time; and few, even among those who administer or who realize its consolation at the present day, are aware that without his determination, not only would the introduction of ether have been slow instead of immediate, but that the primary honor of introducing the great discovery would probably have been diverted from the Massachusetts General Hospital, and from the City of Boston, to some more progressive institution and a more enlightened community.

From its very inception, Dr. Bigelow was an influential and devoted trustee of the Museum of Fine Arts, and his versatile accomplishments have repeatedly lent their aid to its successful administration. He was such an adept in all pursuits engaging the attention of quick-witted men, that it has never been a surprise to find the search-light of his ready brain flashing in some unexpected quarter. Whatever his varied taste led him to take up—whether an unsettled question of surgery, the structure of agates, the habits of a bird or an animal, the intricacies of locks, picture cleaning, photography, or codes of ethics,—was pursued with confident enthusiasm, consummate thoroughness, and an exceptional capacity for assimilating knowledge.

His clear conceptions of efficient executive administration, and his suggestive ingenuity, contributed to the smoothness as well as the simplicity of the service in the hospital which he served with so much assiduity and with such distinction, during two generations. His fertile mechanical skill promoted the economy of its management by many now indispensable appliances in constant use; and a large number of invaluable instruments of his devising or improvement enrich the exceptionally complete armamentarium of its operating theatre, which was his own generous gift to the hospital.

Whatever Dr. Bigelow wrote, was the embodiment of his own competent opinions,—never a compendium of other men's ideas, or of work which had already been achieved elsewhere. When he spoke at medical assemblies no self-laudatory allusions or exaggeration overcolored either his impromptu talk, or his carefully prepared communications. He possessed the resources of a keen and untiring debater; and nowhere else were his force of character, his imperturbable self-possession, his courage in supporting the convictions of his independent, resolute and far-seeing judgment, more admirably shown than in debate.

In court he was an explicit and easily understood witness; and among the striking episodes of his early professional experience, was his connection with certain memorable medico-legal trials, and the acumen of some of his correct deductions from evidence.

No mystification or pretension sullied Dr. Bigelow's work in any department of his profession. No suffering invalid ever found him rough, or thought him brusque. A scrupulous consideration for pain led him to deprecate emphatically, and with recurrent persistence, all unnecessary manipulation of patients, and to advocate earnestly the use of narcotics for euthanasia.

His tenderness towards children was always noticeable; while his gentleness with dumb animals found its complete expression in a strenuous opposition to repetitive, unavailing, or incompetent vivisection.

Powerful attributes such as have been enumerated, even when accompanied by so many attractive feat-

ures, could scarcely fail to array themselves in an occasional attitude of trenchant antagonism. A chivalrous loyalty to one's own opinions is seldom appreciated at its true value by those whose way of belief is dissentient. And yet, in 1882, the President of Harvard University, in announcing to the Board of Overseers Dr. Bigelow's resignation of the Professorship of Surgery, generously declared that "it was an event of grave interest for the Medical School and the whole University." He then went on to say:¹

"A discoverer and inventor of world-wide reputation — a brilliant surgical operator, a clear and forcible lecturer, a keen debater, and a natural leader of men by force of activity, ingenuity and originality — Dr. Bigelow was from the beginning to the end of his connection with the Medical School a very influential member of the Faculty. His energy and sagacity contributed to the rapid growth of the School between 1858 and 1870. During the discussions of 1870-1871 in the Medical Faculty and the Governing Boards — discussions which resulted in important changes of the general plan and policy of the school — his part was that of a strenuous, uncompromising and indefatigable opponent of the new projects; but the caution and moderation which his opposition induced the majority of the Medical Faculty to practise, doubtless made the measures they finally recommended to the Governing Boards all the wiser and, therefore, the surer to succeed. Dr. Bigelow continued to labor in the School with unabated interest and vigor for ten years after the adoption of the plans which he had opposed. In recognition of his eminent services to the University and the public, Dr. Bigelow was chosen, in May last, Emeritus Professor of Surgery, and the degree of Doctor of Laws was conferred upon him at the last Commencement."

Everywhere Dr. Bigelow was a genial and most interesting companion. His hospital students invariably felt the magnetism of his picturesque person and manner. They were captivated by his observant power, his marked originality, his stores of learning, and, above all, by his kindly interest in their physical as well as their educational welfare. His great attractiveness, however, to those who knew him best, lay in the activity and clearness of his intellectual faculties, their pliant subservience to his every purpose, and the wide field of thought which his busy mind embraced.

There is an immense satisfaction in recalling the practical side of Dr. Bigelow's character; and no one can look back upon his efforts to simplify surgery, — his successful abolition of the "pulleys," the beneficent revolution he wrought in the treatment of calculus, and his part in compelling the immediate and unhesitating adoption of anesthesia by ether, — without a feeling of complacency and pride. But, in honoring the memory of so exceptional a man, the fact which compels our notice is, that, among his diverse qualities, the most conspicuous were his superior wisdom and his creative genius, — that, above all his other attributes, these have won him recognition throughout the civilized world, and have made the name of Henry Jacob Bigelow more familiar than that of any other surgeon of recent times.

It was one of the privileges of Dr. Bigelow's life, which he always spoke of with animated delight, to

have been the pupil, the friend, and the colleague, in hospital and in medical school, of DR. OLIVER WENDELL HOLMES. I know their intimate association was one of mutual pleasure, and that no one can speak with better knowledge of Dr. Bigelow than Dr. Holmes, who will now address you.

REMARKS OF DR. O. W. HOLMES.

It belongs to the members of the medical profession who have specially devoted themselves to surgery to tell the story of the achievements of one whom all have recognized, and who will be long remembered, as a great master in that branch of the healing art. The name of Henry Jacob Bigelow is identified with two most important innovations in mechanical surgery. It is indissolubly associated with that inventive discovery which has robbed disease of much of its terror, and emancipated womanhood from the legendary curse which has been supposed to perpetuate the wrath of an offended Deity. The story of these triumphs will be told in full by those to whom the record of his life will be committed. A few recollections are all I have to add to your memorial tributes, but they may, perhaps, shed some side lights on the strongly marked character of our late associate, who was for fifty years my friend, and for a large portion of that time my colleague in the Medical School of our University.

He was a medical student when I first made his acquaintance. He was pursuing his studies in Paris just previous to his taking the degree of Doctor of Medicine in 1841. I had occasion to write to him concerning the existing condition of homeopathy, in which I was interested as an abnormal outgrowth from the medical organism. The zeal with which he entered into the question, the pains he took to learn the most important facts concerning the subject, the intelligence he showed in looking up those facts which would be most useful, and the promptness with which it was all done, convinced me that he was a young man assured of future distinction. I became more nearly acquainted with him at Hanover, where I was for two years Professor of Anatomy and Physiology in Dartmouth College. He had threatening symptoms of disease while he was living in the hotel where I was staying. He was perfectly cool about the matter, and never lost that natural cheerfulness which often all through his life, ran into gaiety.

If I could, without spoiling the metre, change one word in the line in which Horace describes Achilles, I should be tempted to adopt it, with a large and generous rendering, to the characteristics of this hero of surgery:

"*Impiger, jucundus, inexorabilis, acer,*" —

strenuous, good-natured, inexorable to the claims of nature to keep her secrets from his knowledge, keen in detecting them under their disguises. Of all these words, I like best that hard-sounding expression "inexorable." That is what the successful student of science must be; for nature will cheat him if she can, with her fallacies; she will bully him if she can, with her alleged impossibilities. These were the qualities illustrated by Sir Humphrey Davy in that admirable series of analyses which I well remember as described in a lecture of Professor Cooke; the same which we see, perhaps, more wonderfully displayed by Pasteur and Koch in their bacteriological researches. Those who remember Dr. Bigelow's untiring, un-

¹ President Eliot's Annual Report, 1881-82.

relenting, keen-scented pursuit of the truth he was after—the best method of reducing a dislocation of the femur, or of removing a calculus—will recognize these characteristics. No man knew better than he how “to labor and to wait.” I have seen him day after day, at work with his casts, repeating his experiments, “inexorable” until his work was done, done thoroughly, done once for all, and done with. He showed the same sagacity, method and perseverance in studying the cavernous arrangement in the mucous membrane of the nares; and again in discovering the true original of the portrait long believed to be that of Ambroise Paré. He exhausted his subject,—and not till then it was given to the world; and he was ready in due time for his next practical problem. And in the intervals of his work, when his mind was not on it, when he had no plan maturing, no project nursing, never was a livelier companion than this relentless inquisitor of nature. He would, for the time, forget all about the Y-ligament, or the last *écraseur*, and be the Henry Bigelow whom his old playmates remembered.

Dr. Bigelow, as an operator, is better known to many of you than to me, who hardly ever saw him operate excepting once, when he used the knife on my own person, and did not see him then, because I was under the full influence of ether. To prevent any misapprehension, I will say that the trouble was a slight one, nothing graver than this: there was a little too much of me in one place on one of my arms, in the form of a small fatty tumor which he removed. This was more than twenty years ago, and all that is left of it is a linear cicatrix,—Henry J. Bigelow, his mark. That he was perfectly cool in greater operations, I have always understood. That he was most skilful with his hands I knew, but I do not know enough of his manual adroitness to compare him with his contemporaries, as a rapid and dexterous operator.

Dr. Bigelow sometimes paid me the compliment of asking my opinion of, and my criticism upon, an essay or a lecture he was about to read or publish. On an evening of December, 1846, he called upon me with a paper which he proposed reading the next evening at the regular meeting of the American Academy of Arts and Sciences. He began by telling me that a great discovery had just been made and practically demonstrated in the operating theatre of the Massachusetts General Hospital. He proceeded to read the paper, which was the first formal presentation to the world, of the successful use of artificially produced anesthesia in a capital operation. He had the sagacity to see the far-reaching prospects of the new discovery, the courage as well as the shrewdness to support the claims of the adventurous dentist's startling, at first almost incredible, announcement. Every possible effort was made to dislodge the infant anesthesia from its cradle in the Massachusetts Hospital, but there remains the fact that all over the wide world, patients were shrinking under the surgeon's knife and saw,—operator and victim alike ignorant of the relief in store for them at the very time when Dr. Bigelow was unfolding in my library the first paper ever written on the subject, and saying to me as he did so, that within a fortnight the news of the discovery would be all over Europe. From the first, Dr. Bigelow was the steady, unflinching advocate of ether, as the safest of the anesthetics, and his views, though not universally accepted, have had a very wide and lasting influence.

To have been largely instrumental in making the

inestimable gift of anesthesia to mankind, to have corrected the teachings and reformed the treatment of Sir Astley Cooper in the most formidable of dislocations, to have won from Sir Henry Thompson a frank acknowledgment of the superiority of his American rival's treatment of one of the most distressing maladies,—all this makes up a professional record almost, if not quite, without a parallel in the history of American surgery. If the highest claim is questioned, I can only think of the name of McDowell, and possibly one other, as disputing it, and I must leave the question to the experts who are competent to decide it.

Dr. Bigelow was not a man of erudition. He read men and women as many scholars read books. He took life at first hand, and not filtered through alphabets. He was not ashamed of his want of book-learning, and would ask questions on matters with which he was unacquainted, with the simplicity of a child. But he would get what he wanted out of a book as dexterously, as neatly, as quickly as a rodent will get the meat of a nut out of its shell. I remember an address of his delivered some thirty years ago, in which he insisted very justly and philosophically on the importance of imagination to the man of science. I think it was in that address, which I ought to have by me to refer to, that he handled his rapidly acquired knowledge of the great authors he cited, so like an adept in book-lore, that one might have thought he was born in an alcove and cradled on a bookshelf. He got what he wanted out of his authority, and the next day the volume he had eviscerated would be kicking about his floor in the midst of the pamphlets and instruments and all sorts of learned litter which was commonly to be found variegating the pattern of his carpet. This power of finding what he wanted in the midst of rubbish he did not want, was hereditary. I remember Dr. James Jackson's saying to me that if there was a grain of wheat in a bushel of chaff, Dr. Jacob Bigelow would find it quicker than any man he ever knew.

Dr. Henry Bigelow's active mind found various employment outside of his profession. At one time he had a fancy for raising pigeons, and kept a columbarium at the top of his house in Chauncy Place. He did not like doing things by halves, so he sent and obtained the prize pigeons from one of the great London shows. He was very fond of pictures, and would rub the dust from an old canvas with his wet finger, and go into ecstasies over a bright bit of pigment, though he was reported to be color-blind, about which statement I never remembered to ask him. His last fancy was the beautiful one of creating a fine country place in a spot which he had selected in the town of Newton. There I last saw him, not really well, but not complaining, planting the young trees under the shade of which he was not to sit, looking with delight on the far-off mountains which bounded his landscape; and then I hoped I might see him, if a few more years were left me, enjoying a serene old age in the consciousness of having done noble service in the cause of science and for the good of his fellow-men. But the trees are still growing, Monadnock and Wachusett are looking down upon the home he created, and he is gone.

Most of you are familiar with his fine, manly figure, his intellectual head, a dome which the insolent Schopenhauer would have allowed might well be the seat of lofty endowment; with his pleasant features and his agreeable voice and manner. He was not especially

fluent in speech, but could put what he wanted to express into as few words—I was going to say, as his father could, but that is a great deal to claim for any man, even if that man was his own son. He had no great facility in writing, but what he wrote was solid with his thought. When he was deeply in earnest, he had a particular movement by which I could always tell that the powerful brain was at work, as well as I knew that the steam was up in the boiler of an engine when I saw the working beam in motion. Some of you must remember that flexing and extending of the right forearm—that always meant some work going on in that capacious and vigorous mental engine-room.

Dr. Bigelow remains with us in memory as a striking picture, a master in his calling, a man to be admired by the many, and to whom the few who were admitted to his intimacy were sincerely attached. I trust that some fitting record of one whom, now that he is gone, it is not flattery to call illustrious, will be added to our American Medical Biography, of which it will form one of the noblest chapters.

DR. HODGES: Dr. Bigelow was emphatically a Bostonian. He was companion from boyhood until his life's end of Mr. HENRY LEE, who will find it a grateful task to recount some of the impressions left by his versatile friend as they grew up and lived together for many years in the City to which both were so much attached.

REMARKS OF MR. HENRY LEE.

If Dr. Bigelow were alive, he and I might furnish entertainment for you by provoking reminiscences from each other, and dwelling humorously upon each other's peculiarities and misadventures; but now that his voice is hushed, I am in danger of drawing a one-sided sketch when not corrected by his criticisms. Even if I succeed in setting before you fairly the image of my old playfellow, it will be but the image of the boy, in whom were latent the traits and talents which in mature life "marked him extraordinary, not in the roll of common men."

When I was just turned of three years, my father moved from a pleasant old garden house, which stood, where now frowns the portico of the Tremont House, to one of those cosey little courts which were favorite retreats for families living on intimate terms with each other and a little aloof from the great world. On one side of Bedford Place, for so was the court named, was the house and garden of my uncle, Judge Jackson; then August, though only forty-five years old. On the other side all six houses were owned and occupied by our family and near of kin. Close by, in Summer Street, in the houses belonging to the First Church, dwelt my cousin George Cabot and Henry Bigelow.

From that time until we separated for college, we formed an inseparable trio, to the great complacency of George's mother and aunt; for he was a very handsome boy—with red cheeks, brown eyes and hair, and a goodly figure—and we two pale, slender, white-haired boys set him off to advantage. We played together not only the usual recurring games, but also a few tricks of our own inventing, the remembrance of which amuses me more than the narrative would entertain you.

While in our walks into the country for birds or flowers, or at plain carpenter's work, I could beat

Bigelow; on the other hand, swimming, or dancing, or at the gymnasium—wherever agility was needed—he was immeasurably my superior.

During our college life we roomed off the same entry in Hollis two years, and he inherited my room at my graduation. Circumstances—we were both busily occupied; then he voyaged for health, I for business—separated us for a few years; then we came together again in Paris, and afterwards, until marriage and business engrossments parted us.

You want to know what traits I observed in these years of youth and boyhood. In the first place, he had a pleasant temper, or I should not have clung to him all these years. I say clung to him, for, while we clung to each other, I was rather more dependent than he, and that may have been true of all his companionships. Then, he was a most entertaining companion, not only because of his keen observation of men and things, but also, as well, because of his eccentricities—his intermittent activity and repose; his relentless, exhaustive unravelling of some tangled skein; or eager pursuit and abrupt abandonment of one hobby after another; his absorption in all he was doing, and consequent absent-mindedness; his intense curiosity about matters, some intrinsically interesting, some uninteresting; his secretiveness, or to say the least, excessive wariness. These traits combined, to make the doctor, as I early named him, a source of constant amusement to me and all his associates. We two were friends upon the principle of "like likes unlike." We were complementary to each other; I saw the outside, he the inside; I was an observer of persons, he of things. He was quite unobservant of his surroundings; took little notice of scenery or of wayfarers. While he studied the movements of a clock at a shop window, I, incapable of that achievement, had memorized the passers-by. So we jogged along, each refreshed by the other's differences.

When I was a young man, all our physicians were general practitioners; now, you are all specialists. As I gaze around, I behold the faces of those who have exercised their skill on my eyes, my nose, my ears, my skin, my stomach. Well! this is evolution; you are all by nature, as well as by profession, specialists; and my old friend and playmate was eminently a specialist—morally and mentally a specialist. He was like a man looking through a spy-glass, who sees all within the field of vision more clearly than his neighbors not so provided, so that he was able to discover and analyze details invisible to them; and the world has profited and will continue to profit by his discernment and analysis. He was like a locomotive which surpasses other vehicles in power and speed, but is confined to its track. One cannot look for inconsistent advantages; you cannot expect a man with a glass to see what is without his field of vision, unless he and his spy-glass are both afflicted with diverging strabismus. The locomotive will haul you and your goods far and fast, but only while it keeps on its track; it is no respecter of objects thereon, either animate or inanimate; strollers must heed the warning, "look out for the engine."

"Time is short and art is long"; and the man who, by concentrating his mind upon some intricate problem achieves its solution, and thereby saves his fellowmen through all time from suffering hitherto unrelieved, must be ranked high, not only in the list of great discoverers, but also in the ranks of benefactors of man.

kind. Had he not been so occupied, he might have adorned society; he might have taken an active part in public enterprises and charities of the time; he might have been more mindful of the joys and sorrows of those among whom he had been born and bred; more surrounded by friends; and when called away, he might have been missed from more circles, but he could not, in all probability, have invented and transmitted these great alleviations to his fellowmen.

Connected with this brilliancy of intellect, this shrewd discovery of the one grain of wheat in the bushel of chaff, this successful solution of mechanical difficulties which had baffled all previous essayers — connected with, and no doubt consequent upon these evidences of superiority, and consequent also upon his isolation — there came to him a natural enough presumption of superiority in other fields which he had never traversed, and where others had been hard at work, urged by motives which did not appeal to his nature. Here, beyond his rightful domain, he displayed both presumption and incredulity, — incredulity as to the possibility of mainsprings which were not to be found in his machinery; and presumption of superiority, in all directions, based upon his acknowledged superiority in many directions. This was natural error of judgment; but it was an error, sometimes of great consequence. This is why I said that, with all his genius, with all his accomplishments, he was morally and mentally a specialist.

There were two lovable traits which endeared Dr. Bigelow to all his patients, simple and gentle, — his untiring devotion and his reluctance to give pain. On this latter point I can add my testimony to that of more suffering martyrs.

I accepted this invitation very reluctantly, anticipating what I now realize, how imperfect, and therefore, how unfair, would be my sketch of my old friend. To me, up to our last meeting, he was always the old bosom crony of my boyhood and early manhood, reviving remembrances of the joys and griefs, the work and play, the frolics and rogueries and escapades of those days, which, while we talked, came back to us as vividly as yesterday.

I close with a few words which, as President of the Association of Alumni, I had put together as a fitting introduction of Dr. Bigelow, who had been made Emeritus Professor of Surgery in the Harvard Medical School. As the doctor declined to appear, they were never spoken.

"Old Dr. James Jackson, long the Nestor of his profession in Massachusetts, speaking of one of his pupils, then risen to eminence as a physician, botanist and technologist, described him as one who would find a grain of wheat in a bushel of chaff."

"While we do not here inherit titles, we do inherit talents from our fathers, and the son of this remarkable father has risen to great eminence as a surgeon and a professor, as might have been safely predicted by any of his schoolboy and college comrades, whatever profession he had selected. This eminence has been recognized by his Alma Mater this day.

"Yet there is reason to fear that our Emeritus Professor of Surgery has, by his two great operations upon the stone and upon the hip-joint, incurred the anathema of our great Shakespeare, who thus imprudently such meddlers:

"Blest be the man that spares these stones,
And cursed be he that moves my bones."

DR. HODGES: For thirty-three years Dr. Bigelow was Professor of Surgery in the Medical School of Harvard University. This long service must have left its indelible impress. The walls even of the room in which he lectured must bear some *transmittendum*. No one can tell us better of the inspiration of this contagious teaching which still lingers about the chair of surgery than its present incumbent, PROF. DAVID W. CHEEVER.

REMARKS OF PROF. D. W. CHEEVER.

This remarkable man was of Latin, rather than Anglo-Saxon type. The logic of the French, the will of the Roman, the subtlety of the Italian, were united in an intelligence, which leaped to conclusions with the accuracy of genius.

As a surgeon, in method he was a pupil of the French school. To ingenuity he added dexterity; and to dexterity, grace. He was alert, cool, practised; whenever he appeared on the operating arena it was as a central figure. Precise in touch, supple in movements, he added the polish of the finished artist to the *nonchalance* of the experienced operator. To see him operate was to recognize a master.

He was a discoverer and an inventor. He discovered the mechanism of the ilio-femoral ligament; and he utilized its fibres in reducing dislocations. He discovered the tolerance of the bladder; and he invented the lithotrites and evacuators, which this tolerance of nature patiently endured.

He was a promoter of a new discovery in anaesthesia, and the champion of its discoverer.

Though eminently persistent and thorough in details which he regarded as essential, he was impatient of anything which seemed to him needless routine; and he fortunately lived at a time when he was spared the intolerable slowness of antiseptic surgery.

His active mind often devised new mechanical combinations for unexpected cases.

He would have excelled as a leader in government, or diplomacy.

He was long in service as a professor. A terse, clear and epigrammatic teacher, he possessed peculiar powers in extracting the wheat from the chaff of learning.

He was conservative; he refused to be moved by the times; he was opposed at first to changes in medical education, because he believed that the average community required only an average doctor, and that the average doctor needed only an average knowledge; while the exceptional man would acquire higher knowledge of himself.

Expert in surgical pathology, dominant in the field of operation, and clear and logical in diagnosis, his death is a loss to surgery. His genius must always command our admiration, as his discoveries modify our art.

DR. HODGES: Of the many hundreds of students who have sat at Dr. Bigelow's feet, none remember him more vividly or gratefully than his hospital house-officers. The charm of the relationship has never been forgotten. DR. HASKET DERBY, his house-surgeon in 1858-59, still holds the memory of that year in happy remembrance for its association with Dr. Bigelow.

REMARKS OF DR. HASKET DERBY.

You have listened to the words of the associates, the colleagues, and the intimate friends of Dr. Bigelow.

It is my privilege to speak as one of his pupils, his assistants, and last but not least, as one of the recipients of his singular and unmerited kindness. With his commanding talent as a surgeon, and his ability as a teacher, all present are familiar. But there was a side to his character comparatively unknown to the world at large, and fully appreciated only by those younger members of the profession whose good fortune it had been to find in him not only a wise and honored instructor, but an ever interested and sympathizing friend.

No one who has passed a year at the Massachusetts General Hospital as Dr. Bigelow's house-surgeon, can ever fail to recognize the effect of the time thus spent on his subsequent career. His subtle influence on his students was felt the more for being exerted so insensibly. He was the one surgeon who apparently devolved on his assistant the responsibility of everything connected with the patient except the choice and performance of the operation. The head of a young man might well be turned by the confidence that seemed to be placed in his ability. But all that went on was keenly, if silently observed; and the tyro whose diligence was found to slacken, or whose conceit led him to suppose that he might vary ever so slightly from the proper path, would unexpectedly discover his mistake. The lesson thus given was never forgotten. But the diligent and faithful student had nothing to fear. His unavoidable shortcomings would be forgiven, and his earnest efforts rewarded with the bright smile or the single word that, from such a master, was worth many a set speech of dull laudation. Yet the faculties had to be ever on the alert and the senses always sharpened. At the old Medical College the professor of those days took the long, straight flight of stairs leading to the upper lecture-room in single instalments, and ascended with grave deliberation. Dr. Bigelow, always hastening from the hospital to his class, cleared three steps at a bound, and his assistant well knew that he, too, was not to dally on the way. He had need of all his strength, mental as well as physical, to follow the master he served.

The hospital term completed, the year that makes an impression on the education and character of the student never to be effaced, and the examination for the degree passed, the relation of teacher and pupil, of surgeon and assistant terminated, and the young physician hastened to complete his studies at the great European universities and cliniques. After a lapse of several years, and having perhaps in the meantime sought to prepare himself for the practice of some special department of medicine, he would return to America and endeavor to establish himself in his native city. Who has not realized the depression felt at the outset of his career, consequent on the change from the bustle and activity of the schools, from the days and nights spent in absorbing study, from the unrivalled opportunities for observation and investigation, to the deadly quiet of the first office and the weary wait for patients. Happy the man who goes through this ordeal unscathed, happier still he for whom it is shortened, or even abrogated, by the intervention of a friend like Dr. Bigelow, who would follow with unfailing interest his former student on his first settlement at home, unobtrusively tender advice, the golden fruit of his own experience, offer opportunities so rare and seemingly so natural that their carefully hidden source would scarcely be inquired into,

and send case after case from his own clientele, month after month and year after year, until the beginner found himself suddenly transported from the bottom to the top of the ladder, and in possession of a practice, the amount and material of which, he could hardly have dreamed of acquiring after years of patient waiting. No allusion would ever be made as to the source of this success, no gratitude claimed and no thanks allowed. This is what Dr. Bigelow did for students who, after an absence of years, might hardly dare to hope themselves remembered by their honored master. The kindness that prompted it was a hidden trait in his character, and one of which only the few that best knew him were fully aware.

It seems but the other day, although now more than thirty years have gone by, since he came forward in the old room of this Society in Temple Place, and uttered his official eulogy on Dr. John C. Warren, then just deceased. I remember well the words with which he closed, alluding as he did to the passing away of such men, ripe in years and honors, "their works do follow them." It shall not, in his own case, be the fault of those whom he so disinterestedly befriended and assisted, that these works are not known of men.

The following resolutions were reported by Dr. R. M. HODGES, and adopted by the Society :

Resolved, That the Boston Society for Medical Improvement desires to record its sense of the loss sustained in the death of its most distinguished member, HENRY JACOB BIGELOW. Possessed of unusual surgical perception, quick insight, great technical skill and dexterity, clearness and directness as a teacher and writer, he added to these the qualities of leadership, an unusual intelligence, and an indomitable persistency in whatever investigations he undertook. His achievements have won for him a place among the foremost surgeons of his time, and his works have benefited humanity.

Resolved, That a copy of this record be sent to the family of Dr. Bigelow and to the *Boston Medical Journal*.

Adjourned.

BIGELOW AS A SURGEON.

BY A. T. CABOT, M.D.

EMERSON says, "Intellect lies behind genius, which is intellect constructive." And rarely has an intellect so constructive as that of Henry Jacob Bigelow applied itself to the problems of surgery.

He did not devote himself to the enlarging of fields already occupied, and partly tilled by predecessors, but rather to the work of a pioneer, opening up unsuspected ways into regions not explored.

His mind, thoroughly intellectual, had a wonderful power of insight; and when it applied itself to the investigation of a subject, it was rare that its search after truth was in vain. No more striking illustration of this could be found than in his work on the hip. Until he turned his attention to the study of hip dislocations it was only known that the most powerful traction, in what seemed to be the right direction, often failed to draw the bone into place, while occasionally manipulations by rotating and pulling the limb in a more or less aimless way accomplished a reduction with a comparatively slight exercise of force. It remained for him to penetrate the mechanical mysteries of this joint, to discover the action of the Y-ligament

in shaping the deformity, and to show how this band of fibres which had so often frustrated the most violent efforts of the surgeon, could, when rightly understood, be made to assist in the reduction, and to guide the bone back into the socket. The subject remains where he left it.

It should not be supposed, however, that this great intelligence supplied the place of work; for Dr. Bigelow was an indefatigable worker, and, when pursuing an investigation in which he was interested, he never spared himself, and left no corner unexplored. If the thing sought was a perfect lithotrite, he was ready to spend days in the workshop watching every detail as it went through the maker's hands, and accepting nothing as finished until he could detect no possibility of further improvement.

Those who were familiar with his back office could form some idea of the work that he put into the perfection of the "Simplified Evacuator" from the piles of rejected models that covered the floors and tables. Every detail of his litholapaxy apparatus was thus carefully elaborated, and tested as to its working capacity at every stage in its development, and to one looking on it might truly seem that "genius is an infinite capacity for taking pains."

While undoubtedly it will be his work on the hip and litholapaxy which will be longest remembered in connection with his name, we should not forget his share in helping on the cause of surgical anesthesia: "The greatest single step forward in the history of medicine." He not only aided and abetted Morton in his experiments with ether inhalation, but his papers on the subject gave it at once a firm footing in surgical practice, and hastened its adoption throughout the world. His own well-known dislike of giving pain must have often caused him to look back upon his share in annulling surgical suffering with peculiar pleasure.

Besides these signal achievements which place the name of Henry Jacob Bigelow in the roster of the great in surgery, there were many other contributions that he made, which, though of less importance, would have been sufficient to make the reputation of a lesser man.

His discovery of the erectile character of portions of the nasal mucous membrane, his operations for extrophy of the bladder, and for ununited fractures, are evidences of his acute observation and constant interest in all branches of surgery, and the best operating chair, the best autopsy table, and the best urethral dilator now in use, all attest his mechanical ingenuity.

As a lecturer he was very clear in statement and happy in illustration. He placed the subject under discussion vividly before his hearers, and showed remarkable judgment in forbearing to cloud the clear outlines of its important features with too much detail.

The impress of Dr. Bigelow's teaching is still widely felt throughout this community, and many a man to-day dealing with surgical difficulties is helped safely through by the recollection of some aphorism of his old Professor, in which the pith of the subject was served up in a form so compact that its very dryness made it attractive and easily preserved in the memory.

Who, of his old scholars who has an injury of the elbow to treat, does not remember that he must go through the motions of reducing a backward dislocation of the joint, and must put the arm on an internal

angular splint in every case except when he can clearly make out an uncomplicated fracture of the olecranon, and in how many cases of imperfect diagnosis have stiff joints been saved by the remembrance and practice of that rule.

To those who came in close contact with him as his house-surgeons, he may have sometimes seemed exacting, for he usually had several investigations in hand, and when interested in the pursuit of facts he spared others as little as himself. This was compensated for, however, by the advantages they had in personal instruction. He taught them surgical principles, and often left them to apply these to the patients; but if an assistant became slack, or a case was not going well, the fact never escaped his keen eye, and a few words on the duties of internes, or a practical talk on the application of surgical principles to that particular case was the result. Under this practice the men learned surgery and self-reliance, and the patients did well.

To the sick he was kind and sympathetic, not patient to listen to useless tales of woe, but keenly alive to present suffering.

He early found that his strength was not great, and that he must husband his resources; and he sacrificed much of his private practice to the urgent need for time to devote to his teaching and original researches.

He was a brilliant operator, bold and keen, full of expedient, going direct to the object sought with no fumbling of mind or hand. To see him do a litholapaxy was a liberal education in that branch of surgery.

Such is a brief outline of some of the characteristics of that leader that we have lost. Quality, not quantity, he strove after in the work he gave to the world; and for that quality will it endure.

HENRY JACOB BIGELOW, M.D.

A TRIBUTE OF RESPECT INSPIRED BY AFFECTION, ADMIRATION AND OBLIGATION.

BY REGINALD H. FITZ, M.D.

THE brilliant achievements of the late Henry Jacob Bigelow in the art of surgery may obscure in the minds of many, especially those of a younger generation, his contributions to medicine in general, and his interest in medical science.

He was the first to announce to the world the discovery of modern anesthesia. For a year or two after this discovery, it was he who administered most of the ether used at the Massachusetts General Hospital. As the result of this experience, he first clearly showed its advantages, dangers, and the precautions to be taken in its use. Of him, in this relation, it was said by the late Dr. Edward H. Clarke: "He did more than any other living person to bring it before the medical public of this country and of Europe, to assert its real value, and to point out the best methods of utilizing it. How much more even than all this he may have done in the matter is, as yet, unwritten history. To have been thus identified with the greatest blessing ever discovered for mankind was his fortune and desert before he had been two years in practice."

The period in Dr. Bigelow's life which has a particular interest for me is that first, developmental decade, when what he was to accomplish was unknown,

what he was capable of doing must have been anticipated. That he was the most gifted and brilliant young man among his coevals there can be no doubt. We all know what his maturer years accomplished. We want to know the sentiments which inspired the earlier years of his professional life, and which served as the basis of the superstructure which rose to so great a height. It is for his contemporaries, now so few, to give this information from their point of view. Fortunately for us, his own writings at that time, though also few, give decided assistance.

At the age of twenty-three Dr. Bigelow received the Harvard medical degree, and spent the subsequent three years in Europe, chiefly in Paris. Two years after his return he was appointed one of the surgeons of the Massachusetts General Hospital, and at the age of thirty-one he became Professor of Surgery and Clinical Surgery in the Harvard Medical School.

At the height of his professional activity surgery to him was eminently utilitarian. However much he might admire science in the abstract, it was his chief work to investigate problems the solution of which would add to the physical welfare of mankind. His career at this early day was distinctly scientific. The knowledge he was acquiring had no apparent immediate application to the art of medicine, but it served to develop his intellect, and he fully realized the importance it bore in fitting him for his subsequent life. It is possible at this time he may not have known whether his footsteps were to follow those of Hunter, or those of Sir Astley Cooper, whose career his own, perhaps, more closely resembles than that of the other eminent surgeons of history.

He returned from Paris at a time when the influence and teachings of Louis were paramount. The advocates of the so-called numerical method of studying medical problems were crying from the house-tops. In 1846, as President of the Boylston Medical Society, he made an address which was entitled "Fragments of Medical Science and Art." It was an appeal for the use of the inductive method in medicine, and advocated the exercise of the imagination for the promotion of medical discoveries. It indicated the reaction of his own mind against what seemed to him the mere accumulation of duplicate facts. New facts were what he desired, and more of them. These were to be found by chemical reagents, the microscope, and other means of physical examination. We are thus not surprised to learn, that in his earlier years he served as a teacher of chemistry, and became an expert in the use of the microscope.

It is through his devotion to pathological anatomy at this period that one of the monuments of his industry remains, — unfortunately as fragments, but of such a size and character as to suggest the structure in contemplation.

He sought for and secured whatever pathological material bore upon surgical diseases. He took it to a laboratory which he had founded and furnished, and in which was an artist trained and employed by himself. Colored drawings were made of the gross appearances, and the results of his microscopical and micro-chemical examinations were drawn and described with the utmost detail. Years were spent in this work. The art of the lithographer was called upon to reproduce these drawings in a more permanent form, that they might serve as plates for a volume on surgical pathology. While in the midst of this work

the "Atlas of Pathological Anatomy," by Lebert, made its appearance. Dr. Bigelow saw that his task was done by another, even on a larger scale than he had contemplated. His plan of publishing an illustrated Surgical Pathology was thus completed. What the illustrations would have been is, in part, known to the generations of Dr. Bigelow's students, who have admired in their turn the magnificent diagrams with which he illustrated his lectures on surgery. The beauty of some of these pictures is so conspicuous, in virtue of color and outline, that one forgets the repulsive nature of the object, and simply admires the skill of the artist. No one gave the latter more credit than did Dr. Bigelow. Within a few months, when he gave this collection to the Harvard Medical School, he stipulated that each should bear the name of the artist, which has been indelibly impressed upon them. The original drawings are those which possess the highest artistic merit, but those reproduced from various other sources are often interesting. Among them is an enlarged copy of an illustration from Addison's paper, showing the emigration of the white blood-corpuscles, the rediscovery of which, many years later, has made the name of Cohnheim imperishable. That Dr. Bigelow should have sufficiently appreciated the importance of this observation to have made it the object of illustration in his lectures, forty years ago, is truly noteworthy.

It is interesting to see how Dr. Bigelow described the anatomical and histological appearances which he saw. In his "Notes from Clinical Lectures on Surgery" (1851), he speaks thus of cancer of the lip: "But in its early stage the epithelial disease of the lip generally shows upon section as, in this case, a dense, white, opaque color, and often upon minute examination, as here, vertical striae dividing it into apparent columns, which either terminate at the free, labial edge, disintegrating into a paste which furnishes a scab, or may rise above it to a considerable height. But the microscope leaves no doubt in the majority of cases. I will not say all cases; for though some observers have no question upon this point, I have not satisfied myself about it. In most cases the field, as in the present instance, shows unequivocal epithelial features. The white, caseous mass shows the normal epithelial cells and scales, every irregularity of the latter varying in size and shape; while the distorted cells often attain, with and without nuclei, enormous size. A careful observation also detects little groups of the minute cells in the first period of their growth."

In the same pamphlet are contained the following statements concerning certain superficial cysts:

"By 'encysted tumors' I mean a distinct bag or cyst, containing this peculiar, caseous, soft, white material. Serous cysts (if we except 'hydrocele of the neck') are excessively rare. Cysts containing glairy fluid (if we except the bursa) still more so. Nor should the term 'encysted' be applied to those hard or fatty tumors which happen to get surrounded by a little, condensed, cellular tissue, from which they 'peel out.' The true 'encysted tumor' is very common, and, being quite distinct from other growths, should have a monopoly of the name. It is said to contain either *atheroma* or *meliceris*, very ancient words, which often convey no distinct idea. Yet these terms are really very descriptive of the two varieties of the contents: the former signifies *pap*, the latter *honey-wax*; by which is meant, I believe, not clear honey, but chilled

or frozen honey, which it greatly resembles. They are in pathology nearly identical; but *atheroma* readily minglest with water; *meliceris* is waxy, sebaceous or oily, and sheds water. *Atheroma* is a watery fluid, filled with little plates or fragments of epidermic material, sometimes as large as grains of rice, and of a semi-translucent white. Under the microscope this shows numberless epithelial scales, of which these masses are composed; sometimes nucleated, sometimes not, and often very irregular. In *melioceris*, on the other hand, though there may be serum present in small quantity, yet the cells adhere to each other by a tenacious, sebaceous matter or concrete oil, and at least in four among the tumors of this sort which I have removed, and of which I have retained a careful microscopic record, there were no scales, but in their stead beautiful, translucent, oval cells, a few of them nucleated; and occasionally, as a few in this case did, presenting irregularities in form, and some being of minute size. Their usual diameter is rather less than that of an epithelial scale, and they are seen imbedded in and inseparable from the granular, sebaceous, oily mass, when the field is filled with water; but substitute oil for the water, between the glasses, and these granules are at once dissolved, the cells coming out clear and clean into the field, and being the most truly beautiful cells I have ever met with among morbid growths. They are almost hyaline, and may be rolled about like little bladders. In one case they partially collapsed upon the contact of oil, as by an instantaneous exosmose. The gross mass looks like lard at ordinary temperatures, and is sticky and greasy to the touch.

The cyst of *melioceris* and *atheroma* is sometimes lined with a beautiful epithelium. Sometimes the epithelium is irregular and rough. In two cases, at least, of *melioceris*, the epithelial lining was only partial, the rest of the surface being moist and divested of integument. This last character may, perhaps, have some influence in determining the quality of the secretion; whether watery, or sebaceous and waxy; whether epithelial scales, or those large and beautiful epithelial cells. . . .

"Of their cause we know nothing." Astley Cooper thought that they were obstructed, sebaceous follicles. Lebert states that they contain all the products of these follicles. This they certainly do, and in addition, often hair, free and attached; but they are often deep, and seem to me to have also other analogies than those offered by the sebaceous follicle."

The search for knowledge of the above sort was something more than utilitarian, but Dr. Bigelow never regretted the time spent in the pursuit. It was a pleasure to him in later years to call attention to his scientific work of this period, and to point out in his diagrams the observations then made.

Throughout his professional life he was accustomed to emphasize the importance of the study of pathological changes. In his address on "Medical Education in America" (1871), he says, "no single branch of education is more essential to the medical student than pathological anatomy, the corner-stone of medicine."

His own contributions in this direction were made at the beginning of that progress which none knew better than he was to result from a more minute knowledge of facts; such as hitherto were not even to be imagined, but which were to be discovered by the

use of finer and more searching methods of observation than those previously known and cultivated.

In precept, as well as example, he advocated that scientific acquirement should be the only standard of professional opinion. In his introductory lecture of 1849 he thus disposes of the *tactus eruditus*: "A skilful surgeon detects fluid, not because his tactile papillæ are more sensitive, but because his ready knowledge furnishes him with natural groups of symptoms, which now exaggerate and now disconcert the value he would attach to the indications of the tactile sense." And in his address, in 1859, on "Science and Success," we find one of those gems that often sparkle in his essays. "No quality is more essential to sound medical practice than sound judgment, . . . an enlightened judgment is as necessary as an informed conscience."

The first decade of Dr. Bigelow's life now came to an end, and with it the opportunities for devotion to the more purely scientific research. The demand for his services in the practice of the healing art became greater and greater as the years rolled on. Others could accomplish the work which first interested him; he alone could fill the gap which lay before suffering humanity, and which, through his labors, has been freed from some of its terrors.

The main object of his subsequent medical life was usefulness — usefulness not only to his immediate surroundings, but to all mankind. He said, "Utility does not demand great intellect, . . . the prizes fall to industry; and sometimes to a tenacious, I had almost said, insane, pursuit by each of his own chimera." But in this pursuit of the useful he made two of the most important discoveries of his life, the significance of the Y-ligament in hip-dislocation and the tolerance of the bladder to prolonged operations.

These were the years in which his wisdom was so conspicuous. As physician or surgeon, as medico-legal expert, in the daily affairs of life, he was *facile princeps*. The difficulties which surrounded the beginner faded away as his advice was taken. A complicated code of ethics became in his hands, simple, sensible rules of life, an adherence to which enabled the follower to avoid the pitfalls and surmount the obstacles placed in his way by ignorance or design.

His wisdom was based upon a profound insight into and a knowledge of character which lead him to anticipate action and to control it. This wisdom, this knowledge of human nature, enabled him to rule men by showing them what they might accomplish. The delicacy of his tact made it easy for him to turn aside opposition from the one quarter, while the vigor of his intellect and the power of his arguments would cause other opponents to yield, even if not convinced. It was his first task to see the objections which might be presented, and, in seeing them, to discover the appropriate control. He was a master of details, and allowed nothing essential to escape his grasp; with a remarkable power of condensing, he retained the latter and set aside the rest. His wisdom might seem conservative to those who sought for change, but it was based upon an enlightened experience. He was always willing, in virtue of the imaginative qualities he so urgently commended, to make new trials. But these trials must not be so rash or so chimerical as to promise failure or to hazard an existing good.

A conspicuous instance of the exercise of this wisdom is to be found in his advice to make haste slowly when

radical changes were contemplated in the system of education at the Harvard Medical School. His views were presented in an address under the title, "Medical Education in America," delivered before the Massachusetts Medical Society in 1871. As might be supposed, they were eminently practical.

Since a medical school was a place for the education of practitioners of medicine, it was important, first, that it should give "a plain, sound, solid education, without error, if without ornament." It might, then, if able, meet the demand for a higher education. It should give "the highest average development of which the man is capable in the three years of study." At the same time, "it would be desirable to raise the average level of medical acquirement, skill and capacity, the world over. . . . But the standard of medical education should be raised gradually and with certainty by making the best of opportunities available to the largest number." Since, "of two classes educated to the same standard in the same community, the larger will yield the greater product of wheat as well as of chaff," any reform in medical education in this country should aim at educating at least an equal number of students to a higher standard. The student of average preliminary training and acquirement, after three years of honest devotion to medical study, should possess "a knowledge at once adequate to the immediate practice of his profession, and a germ of future growth in the right direction — knowledge unmistakably medical, practical, comprehensive, and rooted in the soil of modern science."

In devising a plan to raise this standard, he agreed with Huxley in preferring regulations which would open to the medical student a most liberal scientific opportunity, and insist upon a competency strictly medical. He did not agree with the details of the plan drawn by his colleagues, since, in his opinion, too much stress was laid by them upon the less applicable sciences, instead of giving more time to the study of medical sciences, especially to medical art. He anticipated that such a plan would result in a diminished attendance and diminished receipts; the immediate usefulness of the school would be impaired in accordance with the loss of numbers, and its life might be imperilled. He was ready to raise the standard of medical education, but preferred to do so gradually and with certainty, giving the best opportunities to the largest numbers.

Although the plan adopted by his colleagues resulted in a diminution of the number of students, the finances of the school were rather improved by the adoption of better methods of conducting the business of education. This diminution in the number of students and the increased cost of educating them are, perhaps, causes of an increased influx of medical graduates of other institutions whose standard is less high, into the towns of Massachusetts and other parts of New England.

Dr. Bigelow's objections to the teaching of a disproportionate amount of less applicable knowledge are now being advocated by some of those who were then his most vigorous opponents. They complain that enough, perhaps too much, has been done for the development of laboratory teaching in the scientific branches of medical study, and too little to foster and promote increased facilities for clinical instruction.

Dr. Bigelow, as I knew him, was a wise man, of brilliant talents and of great energy and power. Ac-

cepting a favorite definition of his own, he was a genius. For "genius is talent with a marked taste to direct, and a strong driving-power to work it." His qualities appealed rather to the head than to the heart, but he was not accustomed to wear the latter organ upon his sleeve. He kept his own counsel. Those in whom he was interested, and in whom he trusted, found him loyal in the extreme, ever ready to aid and encourage by word and deed, with all his might if needed. He asked no thanks, nor sought gratuitous service. He read character so unerringly as rarely to be mistaken in his judgments of men. Whatever he undertook to do by himself, he usually accomplished. His charm of manner, the depth of his knowledge, his sense of humor and keenness of wit, made it a privilege to be in his company. How great that privilege was, is first fully realized when it is no longer possible. He died like a philosopher: conscious of his ills, and accurate in his analysis of them, yet uncomplaining; his mind dominating his body till the very end, when he went to sleep peacefully as a child.

A LIST OF SOME OF THE MORE IMPORTANT OF DR. BIGELOW'S CONTRIBUTIONS TO MEDICAL LITERATURE.

- Manual of Orthopedic Surgery. Boylston Prize Dissertation. 1845.
- Fragments of Medical Science and Art. An Address delivered before the Boylston Medical Society. 1846.
- In sensibility during Surgical Operations produced by Inhalation. Boston Medical and Surgical Journal. 1846.
- On a New Physical Sign, a Clicking in the Throat. Boston Medical and Surgical Journal. 1847.
- Anesthetic Agents, their Mode of Exhibition and Physiological Effects. Transactions of American Medical Association. 1848.
- Ether and Chloroform: A Compendium of their History, Surgical Use, Dangers and Discovery. 1848.
- On the Employment of a New Agent in the Treatment of Stricture of the Urethra. Boston Medical and Surgical Journal. 1849.
- An Introductory Lecture. 1849.
- Dr. Harlow's Case of Crowbar Injury to the Head. Philadelphia Medical Journal. 1850.
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- New and Successful Operation for Ununited Fractures, with Cases. Boston Medical and Surgical Journal. 1867.
- Nitrous Oxide Gas for Surgical Purposes in 1848. Boston Medical and Surgical Journal. 1868.
- The Mechanism of Dislocation and Fracture of the Hip. Boston. 1869.
- Medical Education in America. Address before Massachusetts Medical Society. 1871.
- Death by Chloroform and Alleged Death by Ether. Boston Medical and Surgical Journal. 1872.
- Alleged Death from Ether. Letter to Editor British Medical Journal. Boston Medical and Surgical Journal. 1873.
- Turbinate Corpora Cavernosa. Boston Medical and Surgical Journal. 1874.
- The True Neck of the Femur: Its Structure and Pathology. Boston Medical and Surgical Journal. 1875.
- A History of the Discovery of Modern Anesthesia: A Century of American Medicine. Philadelphia. 1876.
- New Methods and Treatment of Extrophy of the Bladder and Erectile Tumors. Boston Medical and Surgical Journal. 1876.
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- The Code of Ethics adopted by the Massachusetts Medical Society. A Minority Report. Boston Medical and Surgical Journal. 1880.
- Remarks on Modern Lithotomy. Lancet. 1881.
- Radical Cure of Umbilical Hernia. Boston Medical and Surgical Journal. 1882.

- A Case of Disease of the Liver. 1882.
 Lithotomy with Evacuation. 1882.
 Simplified Evacuator for Litholapaxy. Boston Medical and
 Surgical Journal. 1883.
 A Radical Cure for Umbilical Hernia. Boston Medical and
 Surgical Journal. 1889.
 Fees in Hospitals. Boston Medical and Surgical Journal. 1889.
 An Old Portrait of a Surgeon. Boston Medical and Surgical
 Journal. 1889.
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Original Articles.

CLINICAL VALUE OF THE BACILLUS OF TUBERCULOSIS.

BY A. K. STONE, A.M., M.D.

I wish by the narration of a few cases which have fallen under my observation to show what a valuable aid in diagnosis the presence of the tubercle bacilli can be. The cases have occurred both in private and hospital practice and I have to thank the physicians for permission to use the material.

CASE I. The first case which I shall present, came to the Boston City Hospital in February, 1887. The patient was a well-built man of twenty-two years. There was no phthisis in his family. He, himself, had never been sick before. He was a bar-tender, and drank some liquor every day, otherwise his personal history was good. For some two weeks previous to his entrance, he had not felt quite like himself, but he had had absolutely no cough, though during the winter he had had several "colds."

One week before he had several times vomited (?) bright blood in considerable amounts. At the time of the examination he was weak, but felt first-rate. He had "no cough" but raised from time to time a small amount of sputa streaked with blood. There were signs of consolidation at the right apex, consisting of dulness, extending broad finger's breadth below the clavicle, whispered and spoken bronchophony, with broncho- and broncho-vesicular breathing over this area, and a few moist rales in the back.

Such was the result of my examination, for the case had been given me as a "clinical case," and I gave my diagnosis as phthisis.

To my great discomfort the physician in charge of the case had a different opinion, and overthrew all the weak arguments advanced in the support of the theory of phthisis. Indeed, as I found later, the patient had been presented to the third-year students on the previous day, as a well-marked case of pneumonia with the unusual symptom of severe haemoptysis. Though unable to hold my ground in argument, I was unconvinced, and after the hour procured a specimen of the sputum which on examination showed the tubercle bacilli in small numbers, yet easily found in each preparation. A week later the official diagnosis had been changed on account of the pneumonia showing no tendency to resolve.

CASE II was a private patient of Dr. Greenleaf's. A young man with both parents alive and well advanced in years. He, himself, was tall and thin, a lawyer by profession. He had been steadily at work through the summer, and though of late he had not been feeling quite as well as usual, attributed it to a slight pharyngitis, and to his need of a vacation.

About the last of August, he suddenly, and without any previous sickness, spit up several teaspoonfuls of clear blood. So little was he disturbed by this occur-

rence, that he came to town and tried to work, but after a few hours he gave it up and called upon the doctor. He was promptly sent home and sent to bed, and the next day a physical examination was made which failed to disclose any abnormal physical signs in the chest. During the next few days the patient from time to time and without any cough, spit up a little blood. At the end of about three days there appeared a slight cough and a small amount of sputa.

Meanwhile the patient was much displeased with being kept in bed as he felt perfectly well. I was asked to make an examination so that all possibility of phthisis could be eliminated. But the examination showed the presence of tubercle bacilli in small numbers. I will add that at the present writing, over a month from the first attack, the only sign of trouble is a persistent slight cough, while repeated physical examinations have failed to detect any modification of either resonance, or respiratory sounds.

CASE III. A few weeks ago a boy of sixteen years came to the Massachusetts General Hospital, out-patient department, service of Dr. Ernst. Up to one week before he had been quite well, when he had an attack of vomiting accompanied by headache. During the week he had two slight hemorrhages. He had the day he presented himself, a hot, moist skin, some cough with bloody expectoration; severe pain in the right chest; a temperature of 100°, and a pulse of 90.

Physical examination showed diminished resonance over the whole right chest, vocal fremitus and resonance both slightly increased, and moist rales, both coarse and fine, were present.

The general condition of the patient suggested pneumonia, and directions were accordingly given for treatment. But partly from the element of doubt which presented itself, and partly as an exercise in differential diagnosis with the microscope, Mr. Bowen, Dr. Ernst's assistant, was asked to stain some of the sputum to see whether the pneumo-coccus or the tubercle bacillus could be found, and numerous bacilli of tuberculosis were found, thus giving a positive diagnosis.

The next two cases illustrate the assistance which an examination of the urine for the tubercle bacilli may give in certain genito-urinary troubles.

The first patient appeared at the Massachusetts General Hospital in the service of Dr. Beach. He was a carpenter of forty-six years of age with good family history and good general health till within the last six months. There was no venereal history whatever. Four years ago he had had a fall on some rocks which had caused pain and swelling of the penis and perineum, accompanied by a slight urethral discharge. All of these symptoms, however, disappeared at the end of two months. Five months before the entrance to the hospital there was gradual increasing frequency of micturition accompanied by some pain and smarting. He had been treated by the passage of sounds, but the symptoms of acute cystitis steadily increased until there was necessity for micturition every hour. On entrance, the heart and lungs were found normal, and the urine, according to Dr. Woods's examination, had much sediment; a specific gravity of 1,024; was acid; had a trace of albumen and also of sugar; while the sediment consisted of an excess of small round cells, bladder epithelium, a few blood globules.

During the next three weeks the condition improved

a little, the temperature was normal, and the cystitis was less severe. A few hyaline casts appeared in the urine, which otherwise remained as before, excepting that the sugar had disappeared. Repeated physical examinations by the medical staff gave no clue to the general condition of the patient, and examination with the *dry lens* failed to show any tubercle bacilli. At the end of a month and a half there was no marked change, excepting that the patient's strength had gradually but surely failed, while the temperature had gradually increased till it was 101° - 102° each evening. Dr. Beach made up his mind that it was not a surgical case, all medical authority to the contrary, and sent the urine for a bacterial examination, with the result that tubercle bacilli were found present in moderately large numbers, thus establishing a diagnosis.

The second case occurred in the private practice of Dr. F. C. Shattuck. It was an ordinary case of pulmonary phthisis which had been running about a year and a half, when a cystitis suddenly appeared, persistent and severe from the first. An examination of the urine at once showed the presence of the tubercle bacilli and made the diagnosis of tubercular cystitis.

The two following cases show that the absence of the tubercle bacilli may prove an important factor in settling a difficult diagnosis.

The first occurred in the service of Dr. F. C. Shattuck at the Massachusetts General Hospital. The patient was an Irishman, about forty-eight years of age, with negative family history; who had had no previous sickness, excepting pleurisy, twenty-five years before. He entered the hospital December, 1886. The patient stated that four weeks previously, he had taken a severe cold and had coughed a good deal and felt very weak. At the end of a week he had a chill which was followed by fever. A constant pain came in the left side which was increased and lancinating on cough or deep inspiration. On entrance there was pain on the left side, a slight cough with a small amount of white and frothy expectoration; headache and shortness of breath. The physical examination was as follows: the left chest expanded less than the right; below the angle of the scapular to the junction of the fourth rib with the sternum, there was flatness, absence of respiration and of vocal fremitus, otherwise normal. Heart was moved a little to the right. The expectoration gradually became sero-purulent and the area of flatness extended while the patient began to have night-sweats.

January 7, 1887, I examined the sputa and found no evidence of the tubercle bacilli, though other bacteria were found in large numbers. This report so surprised the physicians that the sputa was again examined January 17, but with similar result. Meanwhile the flat area became somewhat less, and on January 22d, the patient was reported as gaining in strength, with respiration to the very base of the left lung, with moist and dry râles. By February 4th there was no cough, and no night-sweats; with only a slight dulness at the base, and with fair respiration everywhere present, and only a few dry râles. On this date the patient was sent to the Convalescent Home, where he continued to improve steadily, and was finally discharged, weighing one hundred and seventy-nine pounds, or thirty-one pounds more than he weighed when he first was able to sit up, and nineteen pounds more than when he left the hospital.

The sputum from the following case was sent to Dr.

Ernst by Dr. D. W. Cheever with the simple request that it should be examined for the tubercle bacilli. Careful examination, however, failed to show any, but Dr. Ernst was struck by the large number of cocci which appeared to have a capsule; probably Friedländer's pneumo-cocci. The result of the examination and the conjecture that the sputum came from a pneumonic process, was returned, together with the request that there should be another specimen of the sputum sent together with some account of the case. Dr. Cheever replied that it was a case in which a diagnosis of phthisis had been made, and indeed the tubercle bacilli were reported to have been found (but this was probably due to a *dry lens*). Dr. Cheever was inclined to think the case one of chronic pneumonia and sent the sputum for examination with the complete confirmation of his opinion.

The patient from this time on began to gain so rapidly that no more sputum could be obtained for further examination, and to-day, September 21st, the man has completely recovered and is enjoying perfect health.¹

A large number of cases, ordinary, every-day cases, might be given where an early and sure diagnosis has been made by the sputum examination; but enough have been cited to show to any one who has taken the trouble to read the above, that the presence or absence of the tubercle bacilli is often of the greatest importance in settling difficult diagnoses, and what is of more importance, making the prognosis and line of treatment clear.

One word as to the methods. To learn to stain the bacilli is not a difficult task, and when they have been well-stained it is not hard to recognize them, provided one has sufficient light and a suitable lens. But it is absolutely useless and will lead the observer into all kinds of error to attempt to search for the tubercle bacilli if he does not have a sub-stage illuminator and an oil emulsion lens. Where the bacilli are present in large numbers (and I have seen them in such large masses in sputum as to be recognized with a Zeiss A. A. objective), they can be seen with a *dry lens*. But when there are only four or five in a cover-glass preparation, though these may be perfectly typical in form and color, it is very easy to entirely overlook them or else to call them bits of colored detritus; while in cases where none are present, small crystals and dirt can too easily take on the appearance of bacilli and lead to a false diagnosis, and what is of more importance, cause an unfavorable prognosis.

A CASE OF HÆMOPHILIA AS OBSERVED AT THE FIRST MENSTRUAL PERIOD.¹

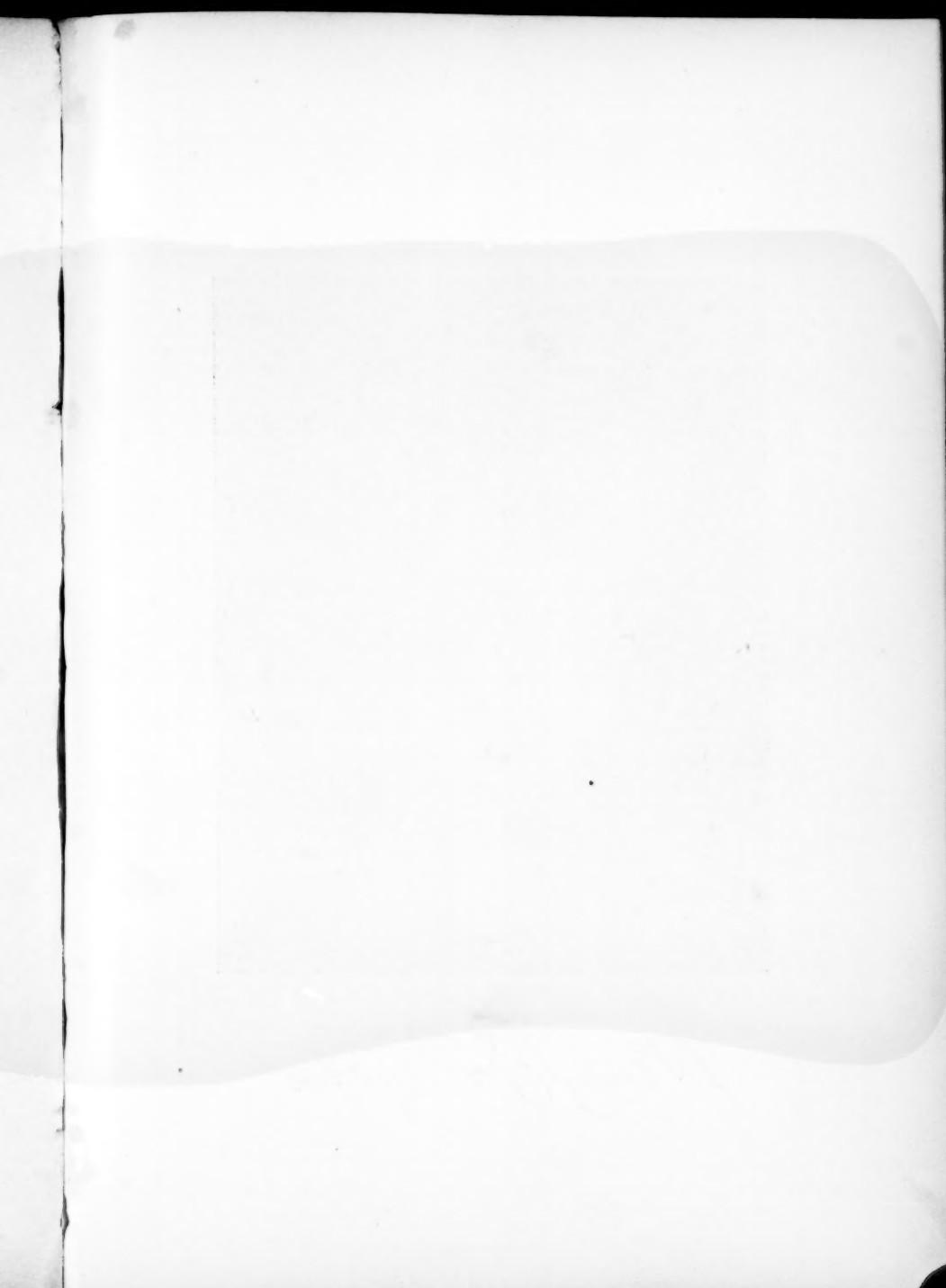
BY CHARLES W. TOWNSEND, M.D.

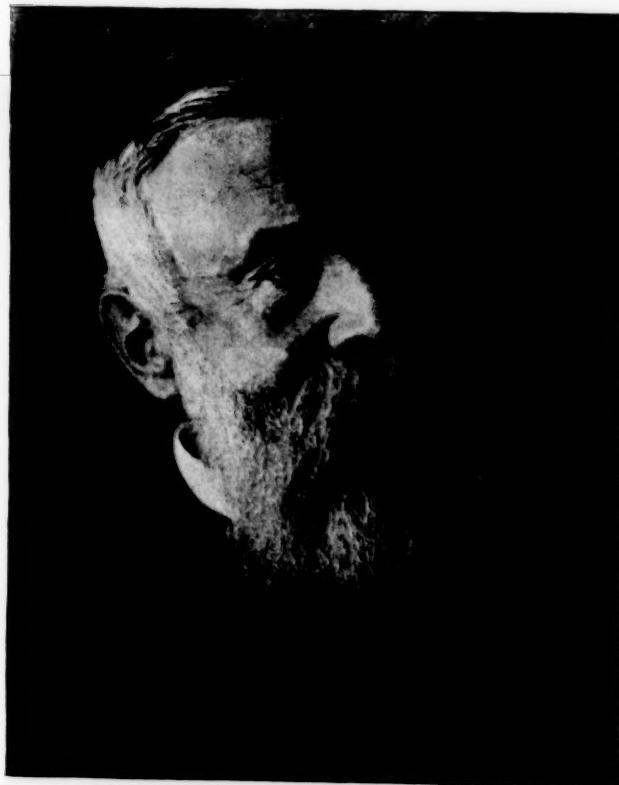
N., AGED thirteen years, comes of a healthy family. No bleeders are known to have occurred. A grandmother on the mother's side had three "blue babies," that died young. The patient has only one sister, and she is not a bleeder.

When N. was a baby it was noticed that any bruise, even that made by the hands in lifting her, caused a black and blue spot due to an effusion of blood under

¹ Read before the Obstetrical Society of Boston, October 11, 1890.

¹ This case is mentioned in the Proceedings of the Association of American Physicians, 1890.





Henry Ford

the skin. These effusions were at times extensive. On one occasion she was struck on the leg with a stick resulting in a large blood tumor which was slowly absorbed. Twice she bled profusely when the first teeth were extracted, once all day and night, another time all night before the hemorrhage could be controlled. A slight cut on the hand caused on one occasion a serious hemorrhage. Mosquito bites were scratched and would bleed freely. Slight scratches did not, as a rule, bleed long, although ecchymoses sometimes formed, as was observed once after the scratch of a cat. The patient has had severe attacks of epistaxis, but none since the removal of some mucous polypi. She has never had swellings of the joints reported in many cases of hemophilia.

As a rule, the patient was strong and full of life, enjoying out-door sports; quick at her studies and

of pale, watery-looking blood leaking through the tampon.

The patient was tossing about the bed, throwing off the bed clothes and calling constantly for water. She had constant nausea and frequent vomiting, the latter coming on after taking even a teaspoonful of water. This vomiting began two days before on April 21st.

The patient was at once restricted in the amount of water by the mouth to a teaspoonful every half-hour, as the constant vomiting following its frequent ingestion was rapidly exhausting her, and an attempt was made to nourish her and make up for the loss of fluids from the body by the use of enemata (one raw egg, three ounces of peptonized milk) every three hours. These were always well retained. On the following day she took two and a half ounces of milk and lime water by the mouth, and twenty-eight ounces of enemata, vomiting only seven times, and on the next day only once and this for the last time. The amount of food by the mouth was gradually increased, so that by the 28th of April she took thirty-eight ounces of beef tea, and six ounces of peptonized milk, besides chewing some steak and taking twelve ounces of egg and milk by enema.

The intense thirst, which was the most urgent symptom, and made the patient almost unmanageable at first and necessitated the banishment from the room of the family, who could not resist her constant appeals for water, began to diminish about the fifth day of treatment, but continued in a milder degree for several days longer.

The tampon was removed April 25th, without any recurrence of the severe hemorrhage, but a slight, bloody discharge continued for six days longer.

On April 26th, a slight gain of color in the lips was noticed, and from that time the daily improvement was very marked, so that on April 30th she had a decided color in her cheeks.

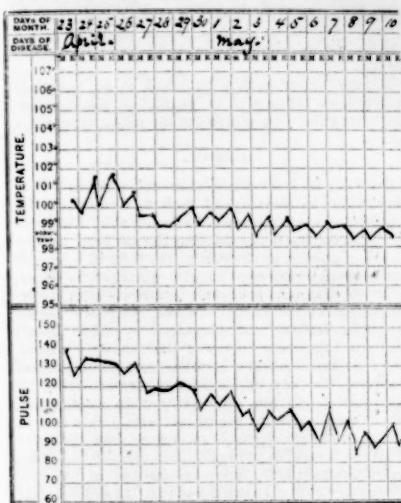
While she was tossing about the bed several pale red ecchymoses formed on the shoulders and elbows.

The accompanying chart shows the moderate elevation of temperature during the anemic period, and the slow but steady diminution in the pulse-rate as convalescence was established.

In the numerous articles on this interesting affection, very little is said, except in a general way, of the disease as it concerns menstruation, and I have been unable to find any detailed accounts of such cases. For this reason I may be pardoned for having reported the present case at such length.

Oslar, in his article in Pepper's "System of Medicine" on this disease, says: "In girls menstruation is sometimes early and excessive, but happily in the female members of hemophilic families neither this function nor the act of parturition bring with them special dangers."

Dunn, in Keating's "Cyclopaedia of Children's Diseases," says: "In girls menstruation may be early and excessive, but is unattended with special dangers," not the fact, certainly, in the case I have reported.



very bright. Physically she was well developed, having a fine skin, rosy complexion, and bright red lips.

Last March, at the age of thirteen, a slight "show" of blood appeared at the vulva, and three napkins were stained two weeks later. A week later—April 11—she began to flow, and flowed profusely for four days. On the fifth day, as the flowing had almost ceased, she went out of doors, but the flowing returned at once. This continued, notwithstanding the use of ergot, until April 22d, when her attendant, Dr. G. W. Tinkham, of Weymouth, inserted a cotton tampon. I first saw the patient on the following day, Dr. Tinkham, owing to the distance from his patient, having transferred the case to Dr. Wm. L. Richardson, who asked me to assist him. The patient was at that time very much blanched, the finger-nails being white and the lips having but a faint trace of color. The heart was normal in size, a loud blowing haemiac murmur being present over the base. The pulse was 140, very weak and thready; respiration at times sighing. The tongue was nearly dry. There was a moderate amount

— An exchange says that the surgeon in a military hospital was much surprised one morning to find the belly of a major, who was a patient, very much swollen. On inquiry he discovered that the nurse, in place of writing down one injection for number twelve, had written down twelve injections for number one.

REPORT ON PROGRESS IN THERAPEUTICS.¹

BY FRANCIS H. WILLIAMS, M.D.

SACCHARIN AS A MEANS OF ACIDIFYING THE URINE.²

WHILE it is usually not difficult to render an acid urine alkaline, our means of rendering an alkaline urine acid are less satisfactory.

When saccharin was first announced, it was mentioned among its properties that it was unaffected by the digestive fluids and was eliminated unchanged in the urine. Some time later, Dr. Andrew S. Smith had occasion to manipulate with this substance, and was struck with its strongly acid property; it occurred to him that so decided an acid, of such a stable composition as to resist decomposition in the system, and electing the kidneys as its way of exit from the body, would supply exactly the agent required for acidifying the urine.

The idea was tested on a boy suffering with transverse myelitis, whose urine, which required to be drawn with the catheter, was ammoniacal and very offensive. A few grains of saccharin, administered three times a day, promptly changed the reaction of the urine to acid, and did away completely with the offensive odor; not only so, but the irritation of the bladder became less and the formation of pus was diminished.

Shortly after this Dr. Smith was in attendance upon a case of subacute meningitis in a child twenty months old. The urine, which dribbled constantly into the diaper, was alkaline, and its odor, though not ammoniacal, was peculiarly sickening. Every effort was made in the way of cleanliness, but the atmosphere about the bed was extremely disagreeable. Small doses of saccharin were prescribed, and immediately removed the fetor, to the great relief of the parents and attendants.

It is probable that a part of the efficacy of saccharin in these cases is due to its being a powerful antiseptic, in addition to its acid property.

SOME OF THE RECENT APPLICATIONS OF MENTHOL.³

The most familiar employment of this camphor is as a local application for the relief of pain, and menthol cones are prepared and sold in the shops for this purpose. The relief obtained from such applications is usually but temporary, yet in some of the milder forms of facial neuralgia and so-called rheumatic pains the remedy is of real service. In pruritis also, the analgesic properties of the drug have been turned to good account. It is employed for this purpose in ointment, spirit, or liniment, in the strength of from one part in twenty to one part in ten. A very good preparation for this purpose is that recommended by Eloy, of a solution of fifteen grains of menthol in one ounce of forty per cent. alcohol.

Still another use for the remedy, as externally applied, is in the treatment of furunculosis, and more especially of furunculosis of the external auditory canal. Here the bactericidal properties of the drug, as well as its analgesic action, come into play. Dr. Cholewa has made trial of menthol in these cases, and recommends it most highly. He applies it by means of a pledget of cotton moistened with a twenty per cent. solution, and inserted into the canal. The appli-

cation is said to cause a little smarting at first but this is soon succeeded by entire relief of pain, and a speedy subsidence of the inflammatory process.

For nasal and pharyngeal catarrh much benefit is often derived from sprays of menthol dissolved in oil or fluid vaseline in the proportion of one to twenty or thirty per cent. In hay fever, William Hill, of London, has found menthol an excellent substitute for cocaine. He applies a ten or twenty per cent. solution in olive or almond oil to the sensitive area within the nose by means of a brush or atomizer. In the chronic bronchitis of old age, Nyes speaks favorably of inhalations of menthol, which, he says not only facilitate and rapidly diminish the expectoration, but also allay the cough and reduce the number of paroxysms. These inhalations have been used with good effect in whooping-cough.

Menthol has not yet been employed to any extent internally, although it is said to act efficiently when so given, in controlling certain painful affections. The dose for internal administration is fifteen to sixty grains per day.

If these effects should be found to be uniformly produced, we might well be justified in placing menthol among the most valuable of the minor therapeutic agents.

ARISTOL.

Dr. P. J. Eichoff⁴ has used aristol, which is a compound of iodine with thymol, both as a substitute for iodoform, and also in some forms of skin disease in which the application of iodoform has not been successful. It is applied to the skin in the form of a ten per cent. ointment, and covered with gutta-percha paper. He has already used it in cases of varicose ulcer, ulcerating lupus of the face, chancroid, psoriasis, herpes tonsurans, eczema, and congenital syphilitic ulcer. From his experience he draws the following conclusions: Aristol is always harmless, non-poisonous and odorless. In only one case — chancroid — was its therapeutic action less satisfactory than would have been expected with the use of iodoform. In a case of psoriasis, although slower in its action than the older agents — chrysarobin, pyrogallic acid, etc., — it possesses the advantage of being non-poisonous and of not producing unpleasant concomitant effects. In another class of skin diseases, the mycoses, aristol is quite as efficacious and at least as rapid and unirritating in its action as other remedies. In cases of varicose and syphilitic ulcers a quicker result may be expected from its use than by any other means. The same may be said of its use in lupus. The author recommends that it be given a thorough trial in surgical and gynaecological practice.

DIURETIN, A NEW DIURETIC.

The diuretic action of caffeine being open to the objection that it may be accompanied by sleeplessness and restlessness, it has occurred to Dr. Gram,⁵ of Copenhagen, to employ a sodio-salicilic compound of theobromine, to which he has given the name of "diuretin." Notwithstanding the strong resemblances between theobromine and caffeine, diuretin is alleged to produce strong diuretic action without in any way affecting the central nervous system, and to give satisfactory diuresis in cases of renal cardiac dropsy in which digitalis and strophanthus has been inoperative.

¹ Concluded from page 493 of the Journal.² Medical Record, November 16, 1889.³ Medical Record, November 23, 1889.⁴ Monatshefte für Prak. Dermatol., 1890.⁵ Lancet, January 4, 1890.

USE OF BORAX IN EPILEPSY.

Dr. Stewart,¹⁷ assistant medical officer at the Glamorgan County Asylum has reported seven cases illustrating the value of borax in epilepsy, and he infers that borax exercises a peculiar influence over nocturnal seizures, and that it is in cases where fits are entirely of that kind that the greatest good may be expected; that bromide on the other hand, exerts a more powerful influence over diurnal seizures, and that in cases characterized both by day and night fits, a combination of these two remedies will be productive of most benefit.

ANTIMONY IN INFLAMMATIONS.

In the *Practitioner*¹⁸ for March, 1885, Dr. Spender pointed out that antimony, in frequently repeated small doses, one-sixth of a grain of tartar emetic, every hour or two, has the power of completely dissipating early local inflammations. Acting on this suggestion Surgeon-Major Laurie began the use of small and frequently repeated doses of antimony in the treatment of surgical inflammation at the Afzaling Hospital in May, 1885. Since then its use has been gradually extended, and he has come to look upon it as one of the most valuable of drugs, as useful in local inflammations as quinine in malarial fever.

It may be given without fear of causing nausea and diarrhea or depression, even in diseases where its use would appear to be contraindicated—for example, in mucous enteritis, a most fatal disease to children on the plains of India. It has been employed in the treatment of typhoid fever, and is said to cut the disease short in a most remarkable way.

Tolerance of this drug is very soon established; there is no depressing effect unless it is pushed so far as to cause its own peculiar nausea and diarrhoea. It can be administered with cardiac tonics, and there are few, if any, cases which are susceptible of benefit by it, in which it cannot be employed in sufficient quantity to do good without fear of inducing depression.

ALCOHOL AND ALCOHOLIC SOLUTIONS IN THE ABORTIVE TREATMENT OF HERPES.

In a thesis published by Dr. Dupas,¹⁹ of Lille, the following directions are given for the treatment of this common and often troublesome condition. Alcohol, ninety per cent. strength, or a solution of two parts of resorcin to one hundred of alcohol, can be employed as a dressing; or one per cent. of thymol or three per cent. of menthol in ninety-five per cent. alcohol. If the solutions cause too much pain, a little cocaine may be added. Compresses moistened in one of the solutions are to be applied upon the lesions and over this spread some impermeable material, or absorbent cotton may be used. These dressings must be changed frequently during the day. The herpetic eruption aborts rapidly under this treatment. The element of pain is also subdued, and it is not rare to see rebellious neuralgia from herpes zoster give way in a few hours to this treatment.

DEATH FROM CHLORATE OF POTASSIUM.

Dr. William Anderson,²⁰ of Brooklyn, N. Y., reports a fatal case of poisoning with chlorate of potassium. The patient was a married lady of about seventy years of age, who took nearly an ounce of the

drug, thinking it was Rochelle salts. The mistake was discovered about an hour afterwards, and emesis was produced by mustard. No symptoms appeared until about four hours after the drug had been swallowed, when the patient suddenly fainted while defecating. The lips became blue, the tongue purplish, and the face ashen, but she said on recovering partially, that she had no pain. There was profuse vomiting of mucus, but no blood. The temperature rose to 100°; the pulse, which reached 100, was weak, but not irregular. She was given digitalis and whiskey, but died comatose, at the end of fifteen hours. The urine passed freely after the draught was taken, but was not examined.

HYDRONAPHTHOL IN THE TREATMENT OF ENTERIC FEVER AND OF DIARRHEA.²¹

Some experiments on the effect of hydronaphthol upon digestive processes seem to show that it has a very distinct retarding influence on the digestion of egg-albumen by peptic fluids, and a very slight effect upon milk by the same. On the pancreatic digestion of milk or albumen and on the conversion of starch into sugar, it has no effect. It is, therefore, inferred by Dr. Clarke that hydronaphthol may be given to patients, who are taking milk only, without fear of interference with digestion. If there should be sickness whilst it is being administered, it is probably due to retardation of peptic digestion and accumulation of undigested curd in the stomach. In the latter case the remedy may be given in pill-form, coated with creatin, in order that it may pass through the stomach and first be set free in the duodenum. Generally it was prescribed in gelatine capsules or simply suspended in milk. Two or three grains every two hours is a sufficient amount; in diarrhea, after the first three to six doses, it may be given every three to four hours, provided the effect is maintained. For children under one year, the dose is half a grain, to older children, one-half to one grain every hour or every two hours, or less often, according to circumstances.

Five cases of typhoid fever were treated with hydronaphthol, and all of them did well. Nausea was troublesome in two patients. It is best to begin with three or four grains every two hours in cases of enteric fever, and when the diarrhea is checked, to give the same dose every three hours during the whole period of pyrexia.

BROMOFORM IN PERTUSSIS.²²

Stepp²³ has reported a hundred cases of whooping-cough in which bromoform was used with success, and recently Dr. Newmann has treated sixty-one cases with this drug or with antipyrin, phenacetin, quinine, resorcin or benzoin (insufflations). Fifteen of the patients were less than a year old, and a number of the cases were severe in character, though there were few serious complications. Bromoform is conveniently administered suspended in sweetened water, half a drop to a drop every two hours to a child two years old.

The intensity and the number of the attacks in the twenty-four hours is diminished. The duration of the disease is not shortened, according to Dr. Newmann, though Stepp is of the opinion that this is also a result of its action. It is harmless, not difficult to administer.

¹⁷ Lancet, April 26, 1890.¹⁸ American Journal Medical Sciences, July, 1890.¹⁹ Journal of Cutaneous and Genito-Urinary Diseases, No. 87.²⁰ Medical Record, December, 1889.²¹ Practitioner, July, 1890.²² Therapeutische Monatsschrift, July, 1889.²³ Deutsche Med. Wochenschrift, 1890, Nos. 31, 44.

ter, and is worthy of a trial, though it is no more a specific than are quinine and antipyrin. Dr. Löwenthal, after using the drug in more than one hundred cases, is enthusiastic about its results.

It is important to use a preparation which is perfectly clean and has not become discolored through decomposition by exposure to the light. Children up to one year of age may have two to four drops three times a day; from two to four years, three or four drops three or four times a day. Up to eight years, four or five drops three or four times a day, according to the number and intensity of the attacks.

The good effects of the drug were apparent sometimes on the second or on the third or fourth day. The course of the disease is shortened, the children being relieved in from two to four weeks. The appetite is improved; in simple cases languor and drowsiness were noticed after each administration of the bromoform. In one case, a weakly child fifteen months old, where too large a dose had probably been given, narcosis ensued.

ELIMINATION OF SALICYLIC ACID BY THE KIDNEYS.

The danger attending the use of many drugs, even when taken in small doses, in cases of renal affections, has led Dr. Chopin²⁴ to investigate the conditions governing the elimination of salicylic acid by the kidneys, both in the healthy and diseased state. From the author's results it appears that in all cases where there is a renal lesion, the economy retains the medicine considerably longer than in the normal state, and it seems that salicylic acid, which, when the kidneys are normal, increases the quantity of urine; in acute nephritis, on the other hand diminishes it. So when moderate-sized doses are given in cases of kidney affection, the well-known symptoms of intolerance of salicylic acid appear in the first or second day of its administration, for the reduction in the amount of urine retards elimination, and so leads to the accumulation of the drug.

These results have an especial importance in indicating the wisdom of prohibiting the use of salicylic acid as a preservative of foods, for even when given in the smallest amounts, if the kidneys are affected, toxic symptoms supervene. In France, it is stated, more than one hundred thousand pounds of salicylic acid were used in 1880 for the preservation of foods, and the facts given above certainly justify the conclusion of the French Academy in prohibiting the use of the article for the purpose of preserving foods.

— The Polish count who was brought into court for sequestering four children, and rearing them as animals, has been acquitted. It is reported that they had been confined in a large, well-lighted and heated and ventilated room, well fed, and occasionally washed by a deaf mute; that they were unclad, never punished or restrained in any act; that two of the children had been confined thus three, one four, and one four and a half years. The defence of the count was that he was conducting a scientific experiment to learn what were the natural instincts and the intuitions really innate in the human species. The age of the children is not reported. They did not speak, and made barking, growling noises, and precipitated themselves upon their food like animals.

²⁴ Journal de Médecine et de Chirurgie Pratiques, 1889. American Journal Medical Sciences, February, 1890.

Clinical Department.

MENORRHAGIA IN A PATIENT AFFLICTED WITH HÆMOPHILIA.¹

BY H. F. VICKERY, M.D.,

Physician to Out-Patients, Massachusetts General Hospital; Instructor in Clinical Medicine, Harvard Medical School.

MISS E. M., a single woman, twenty-four years old, born in Russia, now lives in Boston, and works as a "stripper" in a cigar manufactory. She is on her feet very little. The family history is fairly good, and no relatives are known to have had symptoms like her own.

Since childhood she has been subject to the eruption of purpuric spots on the arms and legs, especially the latter. She has also had frequent nose-bleed, once or twice profuse; for instance, last winter an epistaxis lasted three days, so that a physician was summoned to check it. Since the menses began, in her fifteenth year, the nose bleed has sometimes accompanied them. The catamenia have been regular and not excessive, although lasting five to seven days.

August 3, 1890, the regular monthly flow appeared, but it stopped in three days, a shorter time than usual. On August 27th, flowing recommenced and gradually became alarming. It was for this that I was asked to see her by her physician, Dr. B. Lecherzack, of Boston, on September 9th. The patient had kept at work till three days before. I found her weak and with a small and rapid pulse. Purpuric spots were abundant. The possibility that her condition was due to an abortion was considered, but there were no physical signs of recent pregnancy, nor any reason to believe that pregnancy had been possible. Hot water douches mitigated the hemorrhage, but it seemed best for the girl to enter the Massachusetts General Hospital, where she came under the care of Dr. W. W. Gannett, who has kindly consented to my publishing the case.

On the 17th of September, she was up and dressed; and on the next day the already scanty flow entirely ceased, having lasted three weeks.

Dr. Gannett found that pinching the skin would readily produce an ecchymosis.

A brief report of the above seemed justifiable, because hæmophilia is comparatively rare in women, and even when present, seldom affects the menstrual flow.

Reports of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.¹

The Address on Surgery was delivered by DR. STEPHEN SMITH of New York, on the subject of

THE LIGATURE OF ARTERIES.

The history and physiology of the subject was given, and the contributions of American surgeons to the improvement and development of the ligature.

THE THERAPEUTICS OF EXOPHTHALMIC GOITRE.

DR. E. D. FERGUSON read a paper with this title.

¹ Seventh Annual Meeting, held at New York, October 22-24, 1890. Continued from page 471 of the Journal.

¹ Read by invitation before the Obstetrical Society of Boston, October 11, 1890.

Exophthalmic goitre, he said, was not a common disease and yet it was not so rare as to render it a curiosity and though the disease was one with sufficiently well-defined characteristics to allow of its ready recognition, still errors of diagnosis might and doubtless did occur. The fact that enlargement of the thyroid body was not peculiar to the disease, and that a frequent pulse was attendant on a multitude of morbid conditions, occasional prominence of the eyes might be added, from causes not the same as the condition of determining the development of exophthalmic goitre.

The conclusions that the condition was not, at any rate, a pathological unit, had been strengthened in the judgment of the writer, from the use of digitalis, for in every instance in which he had felt confident of the diagnosis, that drug had not only failed to afford relief, but was apparently productive of injury.

The writer then gave in detail the histories of several cases of exophthalmic goitre treated with straphanthus. The administration of this had afforded prompt relief, the patients being able to return to their ordinary occupation. In no instance had either the exophthalmus or the goitre been entirely removed, and so far as the latter was concerned, the author would not expect its removal, for when the enlargement had existed for some time it became of so dense or fibrous a consistency as to preclude the idea of its complete removal. There was, however, a notable degree of improvement, both in the exophthalmus and the thyroid body, but it was impossible to express in mathematical terms the changes in these features of the disease, so well as could be done in the rate of the pulse. Not only were the rate and rhythm of the contractions favorably influenced, but in these cures there undoubtedly existed a dilatation of the left ventricle which improved so as to leave no physical or symptomatic evidence of cardiac lesion. Recent pathological considerations tended to place exophthalmic goitre in the category of the neuroses, and to find the locus of its origin in the floor of the fourth ventricle. Still the evidence was not such as to give any clue concerning its etiology or treatment, aside from clinical observations, and subsequently there was no explanation to offer as to the method by which straphanthus afforded relief, aside from the idea that first suggested its use, and that was to relieve an apparently overtaxed heart through the lessening of the resistance in the systemic circulation which was claimed to be its action. Aside from any theoretical consideration, as to the way in which the agent acted, the fact remained that benefit was apparently the direct result of the use of straphanthus, a benefit so notable as to almost justify the claim of a cure in some of the cases. The only preparation used by the writer was the tincture, given by the mouth, three times daily, at each meal, the initial dose being from eight to ten drops, which was increased, if necessary, to reduce the frequency of the pulse, to fifteen or twenty, or even twenty-five drops. Whether its apparent utility would bear the test of time and larger experience, was still problematical, at present it seemed to be our most valuable therapeutic resource in exophthalmic goitre.

DR. CRONYN was glad that the speaker had given digitalis its proper place in the treatment of the disease.

DR. CARROLL said that he had been impressed with the difference which existed in the preparations of the drug straphanthus, now in the market. He thought he was the first to employ it here after the publication

of the first paper on the subject. His case was one of dilatation following valvular lesion. Its exhibition had been practically inert. He had then directed that another preparation should be procured. This had produced marked physiological action after a few doses.

OBSTETRICS.

This subject was made the basis of especial and general discussion, the following questions being propounded:

- (1) How may the present prophylactic measures in obstetrics be more extended and applied?
- (2) Is the present technique, in the management of labor and convalescence, in accordance with sound physiology?
- (3) To what extent have the surgical means of treatment of labor complications been successful, or should these complications and the process of repair have been more generally left to nature?
- (4) What influence would a more advanced obstetric science have on the biological and social condition of the race?

DR. S. B. W. MCLEOD presented the first paper on this subject. He said that, as a science, obstetrics was conservative, but was pre-eminently progressive as an art. Antiseptics, midwifery, and prophylaxis were then fully dealt with. The support of the perineum was the subject of much consideration. The dural or lateral position of the patient in labor and the use of the bandages had its advocates, and these a few. It was worthy of especial attention that while there were about one hundred and thirty medicines now before the profession, those that were designated "New Remedies" a few of these, perhaps eight, were of use in obstetrics. Ergot as an oxytocic still remained without a successful rival. The tears in ruptured uteri were sewed under antiseptic details and these lesions always offered prospects of recovery.

DR. G. T. HARRISON said that the most important work of the obstetrician was to see that he did not infect his patient. Vaginal examination should be made only in the interest of the mother and child. The most extreme limitations and even entire omission of internal examination might be very well compensated and substituted by external methods. Antiseptic vaginal douche should not be given before or during the birth in a normal condition of the pregnant or parturient woman. These were also contra-indicated under the same conditions immediately after the birth and during the puerperal state, as they were not only useless but positively injurious. It must be borne in mind that the course of births was mechanically retarded by the loss of the vaginal mucus.

The author would not interfere with the placenta unless there was some obstacle in the way of its complete expulsion, and would not adopt external manipulations. The natural forces were fully adequate to the detachment of the placenta, and there was no necessity of any kind of active interference on the part of the obstetrician to assist the physiological act. In regard to hemorrhage, Crede's method or Schroeder's modification were not objectionable when properly employed with reference to retained portions of decidua and chorion. Too much emphasis could not be laid upon the importance of an ocular inspection of the external genitals immediately after the delivery of the placenta in order to ascertain the existence of any

wound about the vaginal outlet. All the pelvic organs were in a condition of relaxation and the uterus was enlarged and swollen, if, therefore, the patient laid persistently on her back, and the bladder was allowed to become distended, and if the rectum, in addition, was left permanently filled, it must follow as a necessary consequence that the fundus uteri was forced backward, on the one hand, and the cervix was anteposed on the other hand, the retractions were hindered in their involutions and retro-uterine flexion was the result.

DR. T. J. McGILLCUDDY thought that the skilful use of the forceps undoubtedly decreased infantile mortality, but its bungling manipulation increased it. It was said that the forceps were applied much more frequently in private than in hospital practice. This was to be deplored because in many cases the child often lived only a week or two, and generally died from some cerebro-spinal lesion. Episiotomy was an operation which did not often do what was expected of it.

DR. A. P. DUDLEY, in speaking of the point as to whether the complications and processes of repair should be more generally left to nature, spoke very emphatically upon the subject of the Caesarean section. It was a measure, he contended, now very nearly perfect in technical detail. If properly done he believed it would in time become more successful than craniotomy done when a woman was thoroughly exhausted by her own efforts to deliver the child naturally, or by the efforts of the physician to do so with the forceps. One of the chief conditions of success in this operation was that it should be begun early before the patient became too exhausted. He had never given a vaginal douche before the birth of the child, and had never had a case of sepsis. He would suggest that the existence of a condition of pyosalpinx was likely to prove a very fertile source of infection at the time of delivery. In such event the uterus might have been washed out and every antiseptic precaution have been taken, there might exist no injury to the cervix or perineum, and still puerperal fever would develop and the patient die. The same result might ensue from any diseased condition about the bladder. He thought he had seen such cases in hospital practice. As a matter of fact it was seldom that sepsis occurred except as the result of gross neglect. It was his rule never to consider a case of labor ended till he had examined the uterus. It was very easy to pass a speculum. He was in the habit of delivering the woman on her side. In this position he had the perineum well in view and under control. He could sew up a tear and the patient never knew it. A few drops of cocaine was all that was necessary. He then introduced a needle at the top of the rent and repaired the injury with an over and over catgut suture. His answer to the second question propounded would be "no."

DR. A. L. CARROLL said that for a proper consideration of the fourth problem, we should possess statistical evidence of the mortality and morbidity of mothers and children, respectively, due, immediately or remotely, to parturition, and of the degree in which such mortality and morbidity might be regarded as preventable. This evidence, however, was in all respects scanty, and in some cases absolutely non-existent. "Still-births" were not officially registered, either as births or deaths, and even in the very imperfect occasional records of them it was impossible to separate

the fetal deaths before the beginning of labor, from the deaths during or soon after birth. Nor could we determine, outside of a few hospital reports, which reported an infinitesimal fraction of the total childbearings the proportions of abnormal presentations, of maternal pelvis, or of spontaneous or artificial deliveries in these alleged still-births, the whole volume of private midwifery being virtually a sealed book. There were no means of ascertaining how many of these dead-born were due to death during the act of parturition, but that the number was very great might be inferred from a comparison of spontaneous and artificial deliveries. A tabulated condensation of Mme. Lachapelle's experience was here given, the ratio of the dead-born being three and a half per cent, while in the artificial deliveries it rose to twenty-five per cent. As regarded the effect of dystocia on the later life of the child, little could be learned.

From a prophylactic point of view, it was desirable to discriminate the deaths directly due to the act of parturition, from those caused by secondary puerperal diseases, and this had been done by Farr in his separate classifications of "metria" and other accidents of child-birth. Nearly the whole of the mortality under the head of metria ought to be avoidable by aseptic midwifery and after-management, vastly diminishing the perils of the lying-in chamber, especially to the primiparae, and obstetric skill might lessen that from other accidents of child-birth.

Inprudence or mismanagement after parturition was a fertile source of local disease, or general ill-health, reacting almost of necessity upon subsequent offspring, and so, to a certain extent, upon the biological condition of the race. As regarded social conditions, the writer had but little to say beyond expressing the belief that nursing rather than midwifery was responsible for most of the degradation which blotted our vaunted civilization. Recent anthropometric examinations of convicts had frequently detected cranial malformations or asymmetry; it was not yet proven, however, that this was more common in criminals than in the law-abiding class, and if it were, the wildest flight of fancy would fail to reach a guess of its possible connection with dystocia. The speaker closed his paper by saying that he thought the question of heredity had little relation to obstetrics.

DR. C. C. FREDERICK said that he thought that the point of primary importance to the race to come, was the question of the present preservation of the health of the species. Reviewing the accidents during labor, he said the predisposing causes of injuries of the ureters, at that time, were found in a low position of the bladder and ureters, and an impaired nutrition of these organs during gestation, due to oedema and pressure. When the membranes ruptured before dilatation was completed, the cervix and the bladder were carried down into the pelvis before the advancing head, thus exposing the ureters to danger of injury. The use of forceps in such cases was a frequent cause of injury. To prevent injury of this kind, complete dilatation should be secured, if possible, before the membrane ruptured. If they did rupture early, and the cervix was tense, support should be given to the bladder and anterior vaginal wall, and retraction of the cervix over the vertex secured as early as possible. The discussion between the advocates of the expectant method of placental delivery and the followers of Credé, still continued, especially in Europe.

THE PHYSICIAN AS A WITNESS.

DR. MARTIN CAVANA, of Madison Co., in a telling paper on this subject, urged upon the profession to take more pains to qualify for the work of expert testimony before going into the witness box. Then it was well to adhere to the one or two authorities which had been studied and to disclaim any familiarity with others. While the main anatomical features likely to come up should be looked up, the witness need never hesitate to admit such portions of the matter as he cannot readily recall. He, having forgotten, could then take the opportunity to remind the court that even the lawyers are obliged to consult their authorities. It was well to secure favor of the entire court by manifesting a spirit of fairness to both parties in the action. Technicalities should be avoided, and the purport of every question by the cross-examination well weighed before answering. People with no business in the autopsy-room should be kept out of it. If a fire-shovel or wood-saw is used in making the dissection, it would be well not to let any non-professional spectator witness the fact lest it should lay the operator open to unpleasant remarks.

SOME OBSERVATIONS ON BONE AND SKIN GRAFTING,

was the subject of a paper by DR. B. M. RICKETTS.

Grafting or dermepenthesis in the vegetable kingdom had been developed to such an extent that there was hardly any limit as to what could be done in the way of repair and production, beauty and financial gain being the greatest desiderata. While the results of grafting animal tissue were less gratifying than those of the vegetable tissue, much had been done to convince us that the limit was far beyond anything yet attained. Of the many questions that arose relative to the subject of bone and skin grafting, there were three most prominent; namely, (1) When and how should skin be grafted upon raw surfaces caused by injury or by the removal of malignant or non-malignant growths? (2) How and when might bones be restored? (3) Should fragments of normal bone be permanently removed except in case of amputation? The author limited the first question to the cases where the edges of the resulting wound could not be immediately coapted, coaptation being given preference under all circumstances. In the second class of cases, he included those in which the restoration of the bones of the hands, feet, arm, or legs had been removed by trauma or surgical interference without amputation. Bone grafting or osteopenthesis, while not so far advanced, was subject to the same successes as skin grafting. Enough had already been done to show that its confines were not narrow by any means. The third question, bone fragments in either compound or compound comminuted fractures, where a bone was crushed or broken into two or more pieces, the greatest care should be taken to replace the fragments and to offer every opportunity for their union, that its strength and original shape might be preserved. That this might be more certain all clots and foreign matter should be cleared away, and all shreds of tissue removed from between the fragments which should be immediately restored to their proper places. In some cases, as in the long bones, the fragments might be firmly brought together with silver wires which could afterwards be removed. The author looked upon exploratory incisions in cases where the conditions of the bone

could not be determined, as justifiable, and as being the only means of knowing the exact condition; clean surgery being the safeguard. A number of specimens of bone-wiring in the dog were then exhibited.

THE NEW YORK ACADEMY OF MEDICINE.

COMMEMORATION OF THE OPENING OF THE NEW BUILDING OF THE ACADEMY.

The formal opening of the new building of the New York Academy of Medicine, on the evening of November 20th, was a notable event in the medical annals, not only of the city of New York, but of the entire country. The various features of this spacious structure, so beautiful in design and so admirably adapted for the purposes of a working institution like the Academy, were fully described in the JOURNAL at the time the plans were adopted, and it need only be said that the expectations of those most deeply interested in the success of the great enterprise, have been more than realized by the splendid result now consummated. On the occasion of the inauguration ceremonies, there was present a large gathering, thoroughly representing the culture, wealth and beauty of New York, as well as the local medical profession, and that of Brooklyn, Boston, Philadelphia, Baltimore, Washington, Trenton and other cities; and the brilliant incandescent electric lamps shone upon a most inspiring scene.

There were probably nearly fifteen hundred people in attendance during the evening, and the corridors and upper halls were filled with those who were unable to gain admission to the main hall, although the reception and dining rooms were thrown open into it by raising the movable partitions separating them. After an invocation by the Rev. Dr. Howard Crosby, Dr. Alfred L. Loomis, President of the Academy, delivered the opening address. He first paid a tribute to the founders and deceased Fellows of the Academy, among whom were such men as John N. Francis, Alexander Stevens, Alexander Hosack, Joseph M. Smith, Valentine Mott, Francis Delafield, Austin Flint, Wm. T. Van Buren and J. Marion Sims, and then went on to say:

"Our membership has reached nearly seven hundred, and includes most of the active workers in our profession in this city, and many in the State. Every specialty in medicine is represented by those who have become distinguished in their chosen lines of work. There are now established and well-organized sections in all the special departments of medicine and surgery, so that each Fellow may find a place with congenial workers for making public the results of his own observations and experiments, under the sifting criticism of experts: and thus learn what may have been done by others in the way of support or in opposition to his own work. The combined scientific labors of our general meetings and sections are not only to a large degree leading and guiding the medical thought and research of our own country, but its influence is being felt in the medical councils of Europe. We are also exerting an increasing influence on public thought and action. We are becoming a power in this city and State, which is being more and more felt in the legislative and economic work of our Commonwealth. The public health and safety of our citizens are being more

and more committed to our hands, with the conviction that by wise counsels and practical methods, we shall protect them from the ravages of disease by an ever broadening and more perfect sanitary science. Our profession was never so full of promise as at present; never before were there so many strong men in its front ranks as now, never were there so many cultured and brilliant minds entering it as to-day. If this great and daily increasing power can be centralized, as is possible, within these walls, its influence on the social, domestic, business and religious life of our city cannot be estimated; already the better minds in all departments of science are turning to us for help and inspiration. There is no longer a strife of sects or creeds, but a struggle for the supremacy of intellectual power and broad culture over weakness and charlatanism. There is no place in the broad field of scientific medical inquiry for the would-be medical man who talks of the potential power of infinitesimal abstractions and the so-called scholastic illusions. We are living in and are part of an age of facts, not fancies; work, not theories. . . . The days of doubt and anxiety are past, success has ceased to be a question, the auspicious present marks the beginning of a new and broader career for our Academy. It is here in the centre of this great city to do its part in stimulating its intellectual and moral forces; with increasing opportunities come deeper obligations. Our future must not be gauged by past successes or present advances. We are under obligations to the past, but under bonds to the future. As we in turn pass this trust to our successors, to those who in the future are to be the exponents of the lofty mission to which this building is dedicated this evening, it must not have suffered in our hands, but have grown and broadened under the impulse of true enthusiasm and faithful work. Yesterday we read the history of the past; to-day we make history for the future, and, whether he will or not, every Fellow in our number must leave his mark, be it little or much, in the records of this Academy."

DR. EDWARD L. KEYES then delivered the anniversary oration, which is made each year before the Academy and invited guests by one of its distinguished Fellows selected for the purpose. In the course of it he compared the New York Academy with the Academy of Medicine in Paris and the Royal Medical and Chirurgical Society of London, upon the general plan of which its organization was outlined. Each, he said, had a building of its own, that of the French Academy being a temporary one. The Royal Medical and Chirurgical Society was founded in 1805 and has now a membership of 700. Seating capacity of largest hall, 300; area of hall, 40 by 50 feet; foundation area of buildings, 50 by 200 feet. The Academy of Medicine, Paris, was founded in 1826. Present membership, 110; seating capacity of largest hall, 92; area of hall, small; area of building, small. The Academy of Medicine, New York, was founded in 1847. Present membership, 700; seating capacity of largest hall, 350; plus extra opened-up space, 250, equal to 600; area of hall, 42 by 57 feet, and two extra smaller rooms that may be opened into it; foundation area of building, 75 by 100 feet. "All," he continued, "have libraries; but on this point we may seek a wider field for comparison. Our library, which is, I believe, the youngest on the list, and which always gratefully recalls the names of its chief munificent donors —

Purple, Dubois, Bumstead, Stone, Jacobi, and many others whom time forbids me to detail — was founded by donations in 1877, and never bought a book until 1879, eleven years ago. Yet now, safely housed in a fire-proof home, we are proud in possessing the third place numerically among the medical libraries of America, and the fourth place, as far as I can learn, among the purely medical libraries of the world."

DR. A. JACOBI delivered an address on the library, in which he stated that a special library fund of \$20,000, or one-fifth of the sum required for the perpetual endowment of the library, had now been secured. The following passages in it were especially worthy of note: "This library has started from small beginnings, like medicine itself. It comprehends the labors of thousands of workers assiduously employed through long centuries. Pondering over the shelves, you behold abstracts, scientific treatises, works on practical therapeutics, and books on art and appliances, all of them composing our beloved 'medicine.' Remove the theoretical works on anatomy, histology and embryology, experimental physiology, physics and chemistry, — what remains? The wreck of the edifice, the foundation of which is torn away. Look at the shelves holding special literature. Then the specialist will comprehend that his doctrine and art are but a minimal tribe when compared with the surrounding wealth, and that the basis and link of all specialties is general medicine. Every one of them evolved from a minute bud of the great tree, and but few have ever been able to grow up with anything like independence. Thus, medical science and art are shown to be an organism of slow, consistent, historical growth. Even the very excrescences — call them fallacies, superstitions, theories, schools, sects, or what you will — do not disturb the organic economy. In accordance with this your very library, the representative and exponent of all medicine, is no longer a mere collection, but a vitalized organism.

"That is why there is an atmosphere of solemnity in your large library; for you are standing in the presence of the spirit and soul of all previous ages, each evolving from and connected with its neighbor. That is why a library is to the scientist what the church is to the pious, or a museum of a hundred gems, like that which generous Fellow presented to our reception room, to the artist. No consideration of lucre invites you here. While nourishing your mind you disconnect yourself from the embarrassments of trivial employment and deliver yourself from the merely terrestrial. In that way is nurtured idealism, without which no feeling and thinking man can be, and without which no nation can expect to live. When she lost it, even Hellas perished, though she had given birth to Solon, Pericles, Aristides and Sophocles."

Congratulatory addresses were next made by Drs. Fordyce Barker, of New York; John S. Billings, of Washington; S. Weir Mitchell, of Philadelphia; and Reginald H. Fitz, of Boston.

In the course of his remarks, DR. MITCHELL said: "Some years ago I had occasion to visit one of the famous academies of the old world, that of Paris, in search of an ancient volume in its library. I was struck with the poverty of the building, the poor accommodations, and the absence of a catalogue, without which a library is like a man without a memory. I asked one of the members why they did not get a suitable building for the vast treasures they possessed, and

I was told that they were waiting for the government to erect it. If our Academy had had to wait for the government to put up a building for it, how long do you suppose it would have been without one?"

The exercises were brought to a close by Dr. Loomis, who announced that letters of regret had been received from Ex-President Cleveland, Drs. Henry L. Bowditch, N. S. Davis, Wm. H. Welch and others, and then proceeded to read the following characteristic letter from Dr. Oliver Wendell Holmes: "Academies have been too often thought of as places of honorable retirement and dignified ease, roosts where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet rows, while the fighting, the clucking and the crowing were going on beneath them. No doubt, to be a member of the French Academy — one of the forty immortals — is an honor worth striving for, in spite of Piron's epigram. But the academy which fulfills its true function is a working body. It deals with living subjects; it handles unsettled questions; it sets tasks for its members and furnishes, so far as it can, the appliances for their prosecution; it offers rewards for meritorious performances; and sits in judgment on the efforts of aspirants for distinction. It furnishes the nearest approach we can expect to a fixed standard of excellence, by which the work of new hands and the new work of old hands can be judged. It is a barrier, a breakwater, against the rush of false pretensions, which are constantly attempting to find their way into public confidence.

"Nowhere is such a defense more needed than in the sciences and arts which deal with the health of the community. The public is so ready, so eager to be deceived, and the traders in deception are so willing, so hungry to deceive those who will listen to them, that it needs a solid wall of resistance, a close united phalanx of men of recognized sense, knowledge and character to stand against them. The various forms of what I will venture to christen as pseudo-pathy and pseudo-therapy — though they are known to the public by other names — can never loosen the hold of the intelligent, thoroughbred physician on the enlightened members of society so long as the best heads in the profession are banded together in a noble institution like this academy. We look to this great and able body of men to guard the sacred avenues to the temple of science against all worshippers of idols. The medical profession will always have to fight against the claims of wrong-headed and too often dishonest individuals and 'schools,' as they call themselves. There are a certain number of squinting brains, as there are of squinting eyes, among every thousand of any population. There will always be a corresponding number of persons calling themselves physicians ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific practitioner from the plausible pretender with his pseudo-pathy and his pseudo-therapy. We trust it will always be enough for a physician to say, 'I am a member of the New York Academy of Medicine.'

The arrangements of the evening were very satisfactory as a whole, though, on account of the large number of persons present, it was, of course, impossible for all to hear the addresses. At the conclusion of the literary exercises a bountiful collation was provided, while the music of Lander's orchestra added not a little to the enjoyment of the Academy's guests. Alto-

gether, the affair was a brilliant and most successful one, and the profession of New York may well feel proud of the manner in which the occasion passed off, as well as of the achievement which the evening's festivities commemorated.

THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES W. TOWNSEND, M.D., SECRETARY.

MEETING October 11, 1890.

DR. VICKERY reported, by invitation,

A CASE OF MENORRHAGIA IN A HÆMOPHILIC.¹

DR. TOWNSEND reported

A CASE OF HÆMOPHILIA AS OBSERVED AT THE FIRST MENSTRUAL PERIOD.²

DR. G. W. TINKHAM of Weymouth, present by invitation, related the subsequent history of the latter case as follows:

The patient began to menstruate for the second time June 25th, and although she was kept perfectly still in bed, flowed profusely for several days, the flowing ceasing on July 3d.

On the 13th of August she again came on unwell and for the following eleven days bid fair to have a moderate flow and but little disturbance to the system. I was called on the 21st of August. From this date to the 31st there was a constant increase in the amount of blood lost.

On the 28th I tamponed, and although less fluid escaped, together with coagula, there was, nevertheless, as much being lost, as was afterwards found when the tampon was removed. On removing the tampon on the 31st a profuse rush of coagula escaped from the vulva and was followed by profuse hemorrhage. Alarming syncope coming on, I plugged, rather than scientifically tamponed, the whole vaginal canal. Up to that time there had been no marked rise of temperature or pulse as shown by my chart. Through over-persuasion the plug was not removed until the 9th of September. At that time marked septicemic symptoms had manifested themselves, and the outlook was bad. When the plug was removed, it bore evidence of having rested for many days in contact with the external os, and the distal end of the plug was bathed in the mucopurulent discharge that had been present on the napkins for several days previous. Carbolized douches had been used freely for several days before the plug was taken away.

Much as I hesitate putting this experience on paper, I should regret it all the more, did not your honorable members know some of the reasons of the "wherefore and the why." The following two or three weeks brought with them all of those conditions which follows loss of blood and septic absorption. Ptosis of left eyelid continued for some ten days. Dimness of vision, palpitation, extreme languor and lassitude continued until the temperature and pulse had nearly reached normal. From time to time during her illness bluish discolorations would make their appearance on the legs and arms, and on the chest. On the 9th day of October and the fifty-eighth day of her illness her pulse and temperature had returned to their normal condi-

¹ See page 520 of this Journal.

² See page 516 of the Journal.

tion; appetite, sleep and digestion were all satisfactory.

DR. RICHARDSON said that when he first saw the case reported by Dr. Townsend it seemed to be very doubtful whether the patient would survive. She seemed to be almost moribund. It was certainly a clear case of hemophilia.

DR. SWIFT asked about the pathology of these cases and said that a patient was brought to the Carney Hospital in a perfectly blanched condition after flowing for one week. She died suddenly and nothing could be found post-mortem to account for it.

DR. TOWNSEND said that with the exception of thin walled blood-vessels in some cases, of which Dr. Vickery had spoken, it was the fact that nothing, as a rule, was found in these cases, and that the true pathology of this curious disease was as much a mystery as ever.

DR. MINOT said that these cases suggest the spontaneous hemorrhages seen in the new-born where no constant pathological conditions are to be found. The hereditary character of this disease is well-known. In one family under his observation there have been three children with this tendency. One died of cerebral hemorrhage. In another there was umbilical hemorrhage and ecchymoses in the skin, eyelids and tongue. The first-born child bled from the umbilicus and from a slight scratch on the scalp made by the forceps, but she is still living at the age of twenty-six. A cousin in the same family by the father's side, lost several children in the same way. Dr. Minot supposed it was a disease of the blood-making organs. He had recently seen a case of precocious and copious menstruation, in a girl aged twelve years and eight months. She began to menstruate a year ago last April, since when, at irregular intervals, she has lost large amounts of blood, and suffered considerable pain. The patient had large breasts and was a well-developed woman. On examination it was found that a slight touch of the external organs caused them to bleed. She was much relieved of dysmenorrhea by the use of antipyrin and improved under the use of pulvis ferri.

In two other cases of profuse menstruation in young girls he had used dialyzed iron in doses of twelve to fifteen drops three times daily with good effect.

DR. SINCLAIR had used a sulphate of magnesia and iron mixture in these cases with good effect.

In answer to a question DR. TINKHAM said that the tampon he used being small simply restrained the amount of flow without stopping it.

DR. RICHARDSON said that by packing the vagina solidly, using a large number of small wads of cotton, the flow could, he thought, be entirely checked.

DR. SINCLAIR said that he considered ordinary cotton wool far preferable to absorbent cotton in these cases, and that if the vagina were thoroughly plugged it would be possible to stop all bleeding.

DR. VICKERY had used hot douches of 110° to 115° F. in his case with good effect.

ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY.

THE Annual Meeting of this Society was held at the Medical Library, 19 Boylston Street, on Thursday afternoon, November 20th. The Treasurer presented his financial report, showing a permanent investment fund of about \$30,000; and eleven beneficiaries had

each received an annuity of one hundred dollars the past year. As the by-laws of the Society require that a beneficiary once upon its rolls continues there for life, provided there is no substantial proof of immorality, it is evident that this Society can do a permanent good to any unfortunate who has once seen better days, and who can thus appreciate the blessing of a permanent income. The class of investments for the permanent fund is restricted to mortgage notes, United States bonds or municipal bonds, so that though the income does not represent a high percentage on the amount invested, yet there is hardly any danger of loss of capital or shrinkage in its value.

The officers elected for the ensuing year are: Dr. Henry W. Williams, President; Dr. R. M. Hodges, Vice-President; Dr. Francis Minot, Treasurer; Dr. Robert Amory, Secretary; Drs. F. I. Knight, J. P. Maynard, E. G. Cutler, David W. Cheever, C. M. Green, C. H. Cook, G. E. Francis of Worcester, W. L. Richardson, and Charles G. Weld, Trustees. The Society received during the past year a legacy of \$500 from the Amos Cotting heirs.

The objects of the Society are to aid members of the medical profession crippled by age or disease, and their families when in need.

The fee for admission into the Society is three dollars, and two dollars annually thereafter, payable at or before the annual meeting (last Thursday in October). The payment of \$25.00 in one sum constitutes a life member (free from annual assessments). "The donation of \$50.00 or more at one time shall entitle the donor to be inscribed among the benefactors of the Society" (By-law, Art. 5).

A special charter from the Commonwealth of Massachusetts incorporated the Society and authorized its holding personal property to the amount of \$50,000.

Miscellany.

EN ROUTE TO BERLIN.

QUITE a number of New York physicians have already gone to Berlin to make a personal investigation of Koch's inoculation treatment of tuberculosis. Among those who sailed during the past week were Dr. Charles E. Quimby, Assistant Professor of Practice in the medical department of the University of the City of New York, who is sent out by the Faculty of that school; Dr. Joseph Linsley, who is the accredited representative of the New York Post-Graduate Medical School and Hospital; Dr. Alexander Aronson of the German Polyclinic; Dr. G. Bettini di Moise, who is sent out by the Italian newspaper, *Il Progresso Italo-Americano*; and Dr. David H. McAlpin, of the Carnegie Laboratory. Dr. Edward K. Dunham, another instructor in the Carnegie Laboratory, has already been in Berlin for some weeks. It is said that a number of physicians, headed by Dr. H. H. Holbrook Curtis, are about to open an institution for the special treatment of consumption, and that Dr. D. O. Edson, as their representative, has started to Berlin for the purpose of sending over inoculating material and studying Koch's methods. *Frank Leslie's Illustrated Newspaper*, through Mr. William J. Arkell, having received permission from Professor Koch to send a tuberculosis subject from America to

Berlin for treatment, Dr. George F. Shrady, editor of the *Medical Record*, has selected a suitable case from St. Francis' Hospital, and the patient sailed on the 22d. Should the result be favorable in this instance, Mr. Arkell announces that he will erect a hospital for consumptives at Mt. MacGregor.

The thirty-fifth anniversary of the Woman's Hospital in the State of New York, was held November 19th. The report of the Medical Board, read by the Secretary, Dr. Henry D. Nioll, showed that during the year, 661 patients were treated in the hospital, of whom 220 were free patients. In the out-door department the number of cases was almost 6,000. During the year three beds have been endowed by the payment of \$5,000 for each, two of them by Mr. Jay Gould and his daughter, in memory of Mrs. Gould.

— Accompanied by physicians and others, Succi, the faster, took a horse-back ride to and across the Brooklyn Bridge, on the sixteenth day of his fast. He crossed the bridge at a sharp trot; stopping in the centre, however, long enough to have his picture taken. On this day his weight was 125 pounds, a loss of 224 pounds since he commenced his fast. His general condition is good, and his confidence unabated.

— By the will of the late Thomas C. Sloane, who was a member of the Corporation of Yale University, the Sloane Laboratory at Yale, which was founded and endowed by his brother and himself, receives a bequest of \$75,000. Of the institutions in New York to which he left money, the Presbyterian Hospital receives \$10,000, and the Hospital for the Ruptured and Crippled, \$5,000.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 15, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consump-.	Diphtheria and Croup.	Diarrheal Diseases.	Typhoid Fever.
New York . . .	1,622,237	643	225	15.36	11.20	7.04	- 1.76	1.60
Chicago . . .	1,100,000	369	113	16.20	10.26	5.94	- 1.62	4.59
Philadelphia . . .	1,064,277	367	117	15.39	14.31	8.91	- 81	3.24
Brooklyn . . .	882,467	340	131	15.95	11.89	5.80	- 2.32	3.77
St. Louis . . .	520,000	123	32	11.44	12.36	4.86	- 4.86	.81
Baltimore . . .	500,343	102	52	15.60	15.60	5.20	- 3.90	3.50
Boston . . .	446,507	158	53	10.08	15.12	5.04	- 1.26	2.32
Cincinnati . . .	325,000	102	56	21.56	19.60	12.74	-	7.84
New Orleans . . .	260,000	160	53	13.75	9.37	3.75	- 5.62	3.75
Pittsburgh . . .	240,000	—	—	—	—	—	-	—
Milwaukee . . .	240,000	—	—	—	—	—	-	—
Washington . . .	230,000	113	31	15.84	14.96	2.64	- 1.76	8.85
Nashville . . .	68,513	29	9	10.35	10.35	—	- 3.45	3.45
Charleston . . .	60,145	36	15	11.11	8.34	2.78	- 5.55	—
Portland . . .	42,000	10	3	10.00	—	10.00	-	—
Worcester . . .	84,536	12	8	16.66	8.33	—	- 8.33	—
Lowell . . .	77,605	33	7	18.18	18.18	—	- 3.63	15.15
Fall River . . .	74,383	27	12	11.11	11.11	—	- 11.11	—
Cambridge . . .	68,827	24	9	8.33	29.12	—	- 4.16	—
Lynn . . .	55,684	24	6	12.48	12.48	—	- 4.16	—
Lawrence . . .	54,559	22	10	36.32	4.54	13.62	- 13.62	9.08
Springfield . . .	44,164	16	5	18.75	18.75	—	- 6.25	12.50
New Bedford . . .	40,705	11	1	—	—	—	-	—
Somerville . . .	40,117	—	—	—	—	—	-	—
Holyoke . . .	35,528	—	—	—	—	—	-	—
Salem . . .	30,735	14	3	14.28	—	—	-	7.14
Chester . . .	27,850	4	1	—	—	—	-	—
Haverhill . . .	27,322	8	3	12.50	—	12.50	-	—
Brockton . . .	27,278	—	—	—	—	—	-	—
Taunton . . .	26,360	4	1	—	25.00	—	-	—
New Bedford . . .	24,375	5	1	—	20.00	—	-	—
Malden . . .	22,984	6	2	—	33.33	—	-	—
Fitchburg . . .	22,007	5	0	—	20.00	—	-	—
Gloucester . . .	21,262	7	1	—	42.84	—	-	—
Waltham . . .	18,522	7	3	—	14.28	—	-	—
Pittsfield . . .	17,252	6	2	16.66	—	16.66	-	—
Quincy . . .	16,711	5	0	—	40.00	—	-	—
Northampton . . .	14,961	—	—	—	—	—	-	—
Newburyport . . .	13,914	7	2	14.28	28.56	14.28	-	—
Brookline . . .	12,076	1	0	—	—	—	-	—

Deaths reported 2,860; under five years of age 969: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 494; lung diseases 378; consumption 377; diphtheria and croup 171; typhus fever 101; diarrhoeal diseases 63; scarlet fever 23; measles 18; whooping-cough 13; malarial fever 14; cerebro-spinal meningitis 11.

From scarlet fever, New York 7, Philadelphia and Brooklyn 5 each, Chicago 3, Baltimore 2, St. Louis and Cambridge 1 each. From whooping-cough, New York 7, Brooklyn 4, Chicago 2, New Orleans and Salem 1 each. From malarial fever, Philadelphia 4, New York, Brooklyn and Baltimore 3 each, Charleston 1. From cerebro-spinal meningitis, Washington 3, Chicago and Lynn 2 each, New York, Brooklyn, Nashville and Worcester

1 each. From measles, New York 11, Chicago 4, Boston 2, Brooklyn 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending November 8th, the death-rate was 20.8. Deaths reported 3,881: Acute diseases of the respiratory organs (London) 463, measles 175, diarrhea 86, scarlet fever 85, fever 74, diphtheria 73, whooping-cough 48.

The death-rates ranged from 12.7 in Brighton to 29.3 in Manchester, Birmingham 20.2, Bradford 21.8, Leeds 20.8, Leicester 15.8, Liverpool 24.1, London 20.5, Newcastle-on-Tyne 22.7, Nottingham 14.7, Sheffield 20.7.

In Edinburgh 18.5, Glasgow 23.6, Dublin 20.7.

SOCIETY NOTICES.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY. There will be a meeting of this Section, at 19 Boylston Place, on Wednesday evening, December 3d, at 8 o'clock.

Dr. Paul Thorndike will show "A Successful Case of Thiersch's Skin-Grafting."

Dr. John Homans and Dr. G. L. Walton will report "A Case of Successful Trephining for Subdural Haemorrhage produced by Contre-Coup."

Dr. E. W. Cushing will exhibit Improved Apparatus for Sterilizing Instruments and Dressings.

GEORGE H. MONKS, M.D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held, at 19 Boylston Place, on Monday evening, December 1st, at 8 o'clock.

Readers: Dr. F. E. Bundy. "A Report of Two Cases of Diphtheria"; Dr. F. C. Shattuck. "Tricuspid Stenosis, with the Report of a Case and Specimen."

Business: Election of associate members; proposed change in the By-Laws.

T. F. SHERMAN, M.D., Secretary.

BOOKS AND PAMPHLETS RECEIVED.

Analgnesia in Insanity. By J. M. Keniston, M.D., Middle-town, Conn. Reprint. 1890.

Twenty-first Annual Report of the State Board of Health of Massachusetts. Boston. 1890.

Transactions of the Obstetrical Society of London. Part III, for June and July, 1890. London. 1890.

The Physician's Visiting List. (Lindsay & Blakiston's) for 1891. Philadelphia: P. Blakiston, Son & Co.

A Clinical Study of Forty-seven Cases of Paralysis Agitans. By Frederick Peterson, M.D. Reprint. 1890.

Report on the Examination of One Hundred Brains of Feeble-Minded Children. By A. W. Wilmarth, M.D. Reprint.

Causes and Treatment of Sterility in Both Sexes, and Fecundation by Artificial Method. Translated from the French.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Ninety-second Annual Session. 1890.

The Early Operation for Hare-Lip, with the Report of a Case, Illustrations, etc. By Thomas H. Manley, A.M., M.D. Reprint. 1890.

An Address on Ether-Drinking: Its Prevalence and Results. By Ernest Hart, Editor of the *British Medical Journal*. Reprint. 1890.

Saunder's Question Compendia. Essentials of Practice of Pharmacy. By Lucius E. Sayre, Ph.G. Philadelphia: W. B. Saunders. 1890.

On Double Consciousness: Experimental Psychological Studies. By Alfred Binet. Chicago: The Open Court Publishing Company. 1890.

Subjective Delusions; or, The Significance of Certain Symptoms in Mental Disease. By Joseph Draper, M.D. Brattleboro, Vt. Reprint. 1890.

The Patients' Record for the Use of Physicians and Nurses. Compiled by Agnes S. Brennan. New York and London: G. P. Putnam's Sons. 1890.

On Infectious Dyspepsia and its Rational Treatment by the Antiseptic Method. By Frank Woodbury, A.M., M.D., Philadelphi. Reprint. 1890.

The Physician's All-Required Time and Labor-Saving Account Book. Designed by William A. Seibert, M.D. Philadelphia and London: F. A. Davis.

Another Hitherto Undescribed Disease of the Ovaries. Anomalous Menstrual Bodies. By Mary A. Dixon Jones, M.D., Brooklyn. Reprint. 1890.

Index-catalogue of the Library of the Surgeon-General's Office, United States Army. Vol. XI. Washington: Government Printing Office. 1890.

Cyclopedia of the Diseases of Children, Medical and Surgical. Edited by John M. Keating, M.D. Volume IV. Philadelphia: J. B. Lippincott & Co. 1890.

Philosophy in Homeopathy. Addressed to the Medical Profession and to the General Reader. By Charles S. Mack, M.D. Chicago: Gross & Dolbridge. 1890.

Post-Mortems; What to Look for and How to Make Them. By A. H. Newth, M.D. Edited by F. W. Owen, M.D. Detroit: The Illustrated Medical Journal Co.

The Time-Relations of Mental Phenomena. By Joseph Jastrow, Professor of Psychology at the University of Wisconsin, New York: N. D. C. Hodges. 1890.

The Looking Cure. A Sermon preached by the Rev. J. W. Bonham, M.D., Church Evangelist, to the Students of Jefferson Medical College, Philadelphia. 1890.

Report of Carlos F. MacDonald, M.D., on the Execution by Electricity of William Kemmler, alias John Hart. Presented to the Governor September 20, 1890. Albany, 1890.

Clinical Lectures on Varicose Veins of the Lower Extremities. By William H. Bennett, F.R.C.S., Surgeon to St. George's Hospital, etc. London: Longmans, Green & Co. 1889.

A Manual of Auscultation and Percussion. By Austin Flint, M.D., L.L.D. Fifth edition, thoroughly revised by J. C. Wilkinson, M.D. Philadelphia: Lea Brothers & Co. 1890.

Hysteropexie Abdominale Antérieure et Opérations Suspensions dans les Retrodeveiations de l'Uterus. Par Marcel Baudouin. Paris: Publications du *Progrès Médical*. 1890.

Two Cases of Fractured Skull. Recovery in One; Death from Chloroform in the Other. By Thomas Manley, M.D., Visiting Surgeon to the Harlem Hospital, New York. Reprint. 1890.

Suppurating Endotheloma — Myofibroma in a Condition of Necrobiosis — Remarks on the Treatment of the Pedicle, etc. By Mary A. Dixon Jones, M.D., Brooklyn, N.Y. Reprint. 1890.

Saunder's Question Compendia. Essentials of Minor Surgery and Bandaging, with an Appendix on Venereal Diseases. By Edward Martin, A.M., M.D. Philadelphia: W. B. Saunders. 1890.

The Psychic Life of Micro-organisms, a Study in Experimental Psychology. By Alfred Binet. Translated from the French by Thomas McCormack. Chicago: The Open Court Publishing Co. 1889.

Inanity, its Etiology, Pathology, Treatment and Jurisprudence. By Norman Kerr, M.D., F.L.S., President of the Society for the Study of Inanity, etc. Second edition. London: H. K. Lewis. 1889.

Bacteriological Technology for Physicians. By Dr. C. J. Salmonson. Authorized translation from the second revised Danish edition by William Trelease. New York: William Wood & Co. 1890.

Essentials of Pathology and Morbid Anatomy. By C. E. Armand Semple, B.A., M.B., L.S.A., M.R.C.P., Physician to the Bloomsbury Dispensary, etc. Philadelphia: Saunders' Question Compendia. W. B. Saunders. 1890.

Strathpeffer Spa, its Climate and Waters, with Observations, Historical, Medical and General, Description of Scenery. By Fortescue Fox, M.D. (Lond.), Fellow of the Medical Society of London. Illustrated. London: H. K. Lewis. 1889.

On the Employment of the Catastrophic Action of the Galvanic Current for the Removal of Syphilitic New Growths. A Contribution to the Medical Treatment of Tumors. By Frank Woodbury, A.M., M.D., Philadelphia. Reprint. 1890.

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Original Articles.

NOTES ON THE NON-OPERATIVE TREATMENT OF ENLARGED PROSTATE.¹

BY A. T. CAROT, A.M., M.D.

THE operative treatment of obstructive disease of the prostate has excited so much interest of late years, and the operations of prostatotomy and prostatectomy have been so earnestly advocated, that this seems a peculiarly fit time to look at the subject from another point of view, and to review the possibilities of the non-operative treatment of this disorder.

The successes obtained by the operative treatment are made familiar by abundant examples, and this important advance in surgical practice is so firmly grounded on sound mechanical principles that its future high value is sure as long as the cases so treated are properly selected.

There have been, however, mingled with these successes a considerable number of total or partial failures, which show that the obstruction cannot always be cut away, and that in some cases, even when the passage is made free, the bladder does not recover an expulsive power sufficient for the act of micturition.

The exact proportion and conditions of success and failure have not yet been determined; but there is enough uncertainty as to the result of these operations to show us that they should only be resorted to in cases in which milder measures fail to bring comfort and safety to the patient.

Modern methods have also made great improvements in the palliative treatment of hypertrophied prostate, and it is my object to present in this paper some considerations which should not be lost sight of in guiding the care of these patients, and which, though familiar to specialists, are sometimes not sufficiently borne in mind by general practitioners in whose hands the early treatment of these cases usually falls. A case properly directed from the outset will usually run a course which will keep the question of operation entirely in the background; while a failure to understand the condition at the beginning may start the patient on a mistaken course of treatment, which will bring him into a condition from which an operation offers the only hope of escape.

The general and hygienic treatment of these cases is of great importance; for a judicious arrangement of the clothing may save the patient from many surface chills with consequent attacks of congestion of the prostate. Also, in dry inland resorts, he may safely pass a summer that would have been made miserable on a damp seashore, by aggravation of his trouble. The diet and drink, too, have much to do with the irritating or non-irritating quality of the urine, and the symptoms may often be modified by the administration of medicine.

These matters are passed over here, not because they are not of great importance in the conduct of these cases, but because they are more generally understood, and it is desired to call attention now to their mechanical or surgical treatment, the correct appreciation of which is of the first importance, but in regard to which the general practitioner is not so thoroughly informed.

Guyon has divided the clinical history of enlarged

¹ Read before the Boston Society for Medical Improvement, October 27, 1890.

prostate into three periods: (1) That of congestion, affecting mainly the prostate, but also in less degree the bladder and kidneys. (2) That of partial retention of urine. (3) That of serious retention of urine, with distention of the bladder, and usually secondary changes in the kidneys.

This classification divides the cases in accordance with the mechanical condition of the bladder, and is, therefore, useful in helping us to lay out our plan of treatment; for the proper management of the bladder is the key to success in these cases.

The symptoms of the first stage are mainly due to the condition of congestion in the prostate. One of the first things the patient notices is an increased frequency of urination, which is especially marked at night or early in the morning. Guyon ascribes the increase of frequency during recumbency to the passive congestion which becomes more marked when the circulation is quieted by inaction.

Pain is not prominent in the first stage, although there may be some scalding in urination, and a dull aching or dragging sensation in the perineum, the rectum and behind the pubes is sometimes felt.

The force of the stream is diminished by the encroachment of the swollen mucous membrane on the calibre of the urethra, and by the already commencing enlargement of the gland.

The treatment of this first stage is almost wholly hygienic and medical. If the urine is irritating from too great acidity, an alkaline diuretic is indicated. In case of pain anodynes may be required. Counter-irritation to the perineum is sometimes useful, and hot applications around the pelvis will do something to relieve irritation.

In the absence of complications, and before there is any retention of urine, interference with instruments should be avoided, as it only aggravates the congestion and introduces the danger of infection.

It will sometimes not be easy to determine, from the symptoms alone, whether a case is still in the first period of the disease, or whether there is already retained urine. To decide this, it will be necessary to pass a catheter after full urination. When this is done, precautions should be taken to reduce the irritation of the catheterization to a minimum. To this end, it is well to use the catheter at the patient's home and to introduce it at night, when he will have a long rest in the horizontal position afterwards. The instrument selected should be small (No. 6 English), of soft rubber, and the utmost cleanliness should be observed in its use. Even with all care, a little irritation will sometimes be set up, but will usually subside under rest and simple remedies.

It sometimes happens, when a catheter is used carelessly or unadvisedly in the first period, that the congestion is so increased by its use as to give rise to inflammation of the neck of the bladder, with uncomfortable, sometimes serious, symptoms. When this happens, it is the more unfortunate, for it often convinces the patient, and sometimes his physician, that his bladder is unduly sensitive to the use of instruments, and that the catheter must never be used again, for fear of even more serious consequences. If then, afterwards, the disease moves on into the second or third stage of retention or distention, it is extremely hard to persuade the patient to again resort to catheterization.

As the second stage establishes itself, and the blad-

der begins to contain residual urine, the discomforts of the first stage become more pronounced. Sometimes an unsatisfied feeling is left at the end of urination, as if the bladder had not wholly freed itself. This feeling is, however, often wanting, and its absence should not put one off the track of looking for residual urine.

The frequency of urination, which during the first stage may have been most marked at night, becomes, in the second period, almost equally troublesome in the daytime. As the bladder is always partly full, it takes but a small additional quantity to distend it to its full capacity, and the calls to urinate are frequent and imperative. Sometimes, however, the bladder shows remarkable tolerance of distention, and the amount of retained urine becomes considerable before the patient is made uncomfortable by it.

The only positive means of ascertaining the condition of the bladder is by physical examination; and this should be made in every doubtful case. If the bladder is very full, it may be perceived above the pubes by palpation and percussion, but a moderate degree of retention cannot be detected in this way. During the rectal examination of the configuration of the prostate, the finger can be carried up on to the posterior bladder-wall, and by combined manipulation with the other hand over the abdomen, may determine with some accuracy the degree of distention of the bladder. The passage of the catheter is, however, the most accurate means of settling the amount of retention.

It is wise to use the same amount of care in commencing the use of the instrument in this stage as in the first. We are never certain that the kidneys have not already begun to be affected; and if they have, an undue amount of irritation of the urethra or neck of the bladder may precipitate an attack of renal congestion. Also it is of the first importance not to set up an inflammation in the prostate which may so increase the obstruction of the urethra as to wholly stop the natural passage of the water and so oblige the patient to depend on the catheter to relieve the bladder.

If residual urine is found, we shall be guided in our subsequent treatment by the amount of it. In case there is but three or four ounces of it, the catheter should be passed once a day to draw it off, preferably at night. Not infrequently it will be found that under this systematic use of the catheter the amount of residuum steadily diminishes, until finally the bladder is again capable of entirely expelling its contents. In short, the disease is moved back from the second stage to the first. When this occurs, the catheter may be dispensed with, but should be passed occasionally to make sure that the urine is not again accumulating.

If the residuum does not diminish under the regular use of the catheter once a day, the water should be drawn also in the morning after the patient is dressed; and if a residuum is found at that time too, it is well to empty the bladder in the morning as well as at night.

The time after dressing is selected for this test, because it is a common habit of these patients to pass their water several times while first moving about in the morning, so that the bladder empties itself more completely at that time than at any other part of the day. When the residual urine is in large amount (from eight to sixteen ounces), it indicates an amount of obstruction in the urethra and a loss of power in the bladder that is not likely to grow less, and that will probably require the regular use of the catheter for the rest of

the patient's life. Even in such a case as this, however, the patient should begin gradually, and accustom himself by degrees to its use.

After the catheter life is established, it is usually found sufficient to empty the bladder four times in the twenty-four hours. Three times a day, or once in eight hours will sometimes suffice, but if the least uneasiness is felt, the bladder should be emptied oftener; for a painful, forcible retention of urine after the desire to pass it is felt, occasions more irritation to a sensitive bladder than a somewhat more frequent introduction of the catheter. In order to reduce the necessary irritation of catheterization to a minimum it is important to select the proper instrument for each case, and to see that it is passed in the best manner.

When it will pass, a soft, rubber catheter is the best instrument, as it can do no harm to the urethral walls, and requiring no guidance, it can be entrusted to an unskillful patient. A small size is the best, unless the urine contains thick mucus that will not flow easily.

If the soft rubber catheter will not pass, we must use a stiffer instrument. Sometimes a French bougie-pointed catheter will succeed in such a case, and it, too, has the advantage that its introduction does not require skilled guidance. It is stiff enough, however, to perforate the urethral wall if pushed with force against an obstruction, danger which the patient should fully understand, and should have the intelligence to avoid. The other instruments that are used for these cases are given particular shapes to avoid the pockets and projections which obstruct the passage.

In the old patients from which these cases are drawn the urethra is a comparatively lax tube as compared with the condition in younger men. The firmness of the urethral walls is largely dependent upon the support of the muscles that surround it, notably of the accelerator urine muscle. As the muscular fibre relaxes with old age, the walls of the urethra offer less support and guidance to instruments. The first point where the lack of support is felt is in the bulbous portion, in front of the triangular ligament. As the urethra passes through this fibrous sheet, its walls are held up and kept in a constant relation with the arch of the pubes, while just in front of this opening the bulbous urethra, when it lacks the support of the muscle surrounding it, sags down and forms a pocket. This pocket being situated on the lower side, just where the passage turns upward towards the bladder, is almost certain to catch the point of any straight instrument. If a soft catheter catches there, a French bougie catheter is even more likely to, as it is somewhat stiffer, and follows the floor of the passage even more closely in turning the corner below the pubes. Just in front of the prostate the same mechanism is likely to form a similar pocket.

After entering the prostate, the lateral walls of the urethra may be pressed snugly together, and so resist the passage of a soft, pliable instrument; but the only obstruction that is likely to catch the point of the instrument is the third lobe, which, when enlarged, projects from the floor of the canal, either as a prominent tumor or as a bar.

Thus we see that all of the obstructions likely to resist the passage of an instrument are on the floor of the passage; and in order to avoid catching an instrument on them, its point must be made to run along the roof of the canal.

The *coudé* catheter of Mercier is a familiar instru-

ment constructed for this purpose, and when properly managed, and passed so that its point is directed upwards, it rides over the obstructions described above most admirably, and can be successfully used by patients of moderate intelligence.

There is one criticism that I should like to make on these instruments, as at present furnished, and that is that the turned-up end is not long enough to ride over many of the obstructions that exist on the floor of the passage. The end should be, at least, three-fourths of an inch in length; and, as I have often proved, an instrument with such an end will frequently succeed in passing when one with the shorter beak now furnished has failed.

Lastly, we come to speak of stiff instruments, which require especial guidance, and to which various forms have been given.

This subject is so thoroughly treated of in the books that there is little that is new about it; but it is worth while to emphasize the importance of avoiding the pitfalls on the floor of the urethra in their introduction. The pressure of the hand in the perineum as the triangular ligament is being passed, and of the finger in the rectum as the point rides into the prostate, will often make easy what would otherwise be almost impossible. And it is well to know that this pressure must often be very great indeed to accomplish its object.

If the catheter is going right in one of these cases, it slips along with ease, and if it is caught and will not advance, it may be concluded that it is not rightly following the canal.

If false passages already exist in the urethra, it is a good plan when the point is caught to always withdraw for a considerable distance and then to try forward first on one wall of the passage and then on another, always remembering that in the majority of cases the false passage is on the floor.

We must expect in a certain number of cases to see a cystitis develop on commencing catheterization. This may be due either to the too sudden emptying of a distended bladder, or to the introduction of dirt upon the catheter, or to the irritation from the constant use of the instrument. Usually the cystitis due to this cause can be kept within moderate bounds and presently subsides as the bladder and urethra become accustomed to the changed conditions.

It is important that the aggravation of symptoms caused by this inflammatory onset, shall not lead the patient or doctor to infer that the catheter is doing harm and should be given up. It should, however, lead to a careful consideration of the method in which the catheter is being used, and extra care should be taken to see that the instrument is not causing any irritation.

Sometimes in spite of all care, attacks of inflammation of the prostatic urethra and bladder arise, and give much trouble. The urine becomes thick with muco-pus, and there may be considerable haematuria. The frequency of urination under these circumstances becomes very troublesome, and often accompanied by much painful spasm of the bladder.

When this condition of things becomes established, especially in a patient who cannot void his urine, and who therefore is constantly suffering from spasm, something must evidently be done to give the bladder a rest.

It is under these circumstances that an operation for

bladder drainage, and for the removal of obstructing portions of the prostate is often undertaken, and would seem to be proper. There is, however, another means of draining and affording rest to the bladder which is very efficient, and is much less dangerous than any operation. It is by fastening a catheter into the bladder (*sonde à demeure*). It is often surprising to see how quickly and entirely one of these sharp attacks of cystitis with bladder tenesmus is relieved by the continuous drainage through a catheter. The urine often clears with surprising rapidity.

The siphonage which is obtained by carrying the urine through a rubber tube into a bottle on the floor, is a valuable aid to keeping the bladder really empty, and forcibly sucks out clots of mucus and blood, that would certainly stop up a catheter that only dropped into a vessel between the thighs.

It is important, in adjusting the catheter, to so fasten it that the point shall neither press into the posterior wall of the bladder, nor escape into the prostate. Four threads fastened to the catheter, and then attached to a band of adhesive plaster about the penis is a common and tolerably efficient way of fastening it. The disadvantage of this method, however, lies in the fact that the penis is a movable organ, and sometimes allows the catheter to come so far out of the bladder that its point catches in the prostate.

A safer method is to fasten the threads to a ring of rubber tubing that encircles the penis and scrotum, and is held in place by being fastened in front to a waist-band, and behind by two perineal bands carried around in the folds of the nates, and brought up to the waist-band on the sides. This fastening holds the ring of rubber firmly down against the pubes, and if the catheter is then secured to the ring, it is held in constant relations to the pubes and bladder, no matter what changes of position the penis may undergo. It should be fastened as before by four threads, two of which are attached to the ring well towards the back to prevent the catheter riding up.

The catheter usually used for this purpose is the English gum elastic catheter, which soon gets soft and pliable throughout all that part of it that is in the urethra, but of which the outer part retains its stiffness sufficiently to prevent its doubling up, and so coming out.

A soft rubber catheter may be fastened in by attaching to it strips of adhesive plaster, which run back over the penis, and are held there by an encircling band of plaster. These plasters must be attached to the catheter close down to the meatus, as otherwise the catheter will work out of the urethra beside them. In fact, if there is much expulsive power in the urethra, it will often expel the soft, flexible catheter in spite of the most carefully arranged fastening.

When a catheter is properly arranged there should be a steady drip of urine from the tube, and if this ceases for more than a few minutes, the cause of the stoppage should be investigated. It will usually be found due to one of three causes, either the catheter is too far in, or it is too far out, or it is stopped by a plug of blood or mucus.

If moving it in and out does not start the stream, the tube may be stripped with the fingers so as to empty it of air, and it will then act by suction to draw the clot along. If this does not succeed, the catheter may be washed out with a syringe.

The catheter should be taken out and a clean one

introduced every four to six days, as in a longer time it becomes encrusted with the salts of the urine, and acts as an irritant.

Ordinarily, such drainage as this soon relieves the symptoms, and it can be discontinued, and ordinary catheterization resumed in from a week to a fortnight. If relief does not follow, it is probable that there is some undiscovered cause of the continuance of the trouble, perhaps a stone, or pyelitis.

The third stage of the disease always comes on insidiously. The tolerance of the bladder is so great that it becomes greatly distended without the patient being aware of anything more than a frequency of urination which he knows to be common in old men, and therefore neglects. Finally, it is often the incontinence which results from overflow that leads him to consult a surgeon. Long before this, however, the kidneys have usually begun to suffer serious changes. There is almost always an interstitial nephritis, which may or may not be associated with dilated ureters and pelvis. Not infrequently the secondary heart changes of Bright's disease may be discovered. When this condition is found thoroughly established the surgeon has a difficult problem to solve, for he knows that if left to itself the disease must soon prove fatal, and he has also great reason to fear that any interference may only precipitate the fatal result. Guyon has laid down a rule, for deciding whether to interfere in these cases, that is a practical one. He says, that such patients, who are almost always suffering from general debility usually associated with a disturbed digestion should be put upon a tonic course of treatment, and if they respond and improve under this, that it shows a sufficient power of recuperation to make it advisable to use the catheter, and to endeavor to better the condition of the bladder. If they do not improve under general treatment he advises letting the bladder alone.

When it is decided to interfere in such cases, it is even more important than in the second stage to take care that the bladder is not emptied too abruptly.

The patient should be put to bed, and but a portion of the contents of the bladder should be drawn off at a time. It may take a week or more to gradually reduce the amount of residuum to the point where it will be safe to empty the bladder.

If, before the patient is accustomed to the use of the instrument an attack of inflammation sets in, there is great danger that it will extend up along the ureters and set up a pyelo-nephritis.

This backward extension of the inflammation may possibly be prevented by establishing thorough drainage of the bladder, so that the urine shall flow out of it as fast as it comes down from the kidneys. This may be accomplished either by cystotomy, or by a permanent catheter. The patients with partly disabled kidneys do not bear cutting operations well, and the catheter drainage, if it works well would, therefore, be preferable in these cases.

— In a late number of *La Lyon Médicale*, attention is drawn to an article by Dr. Filatoff, of Moscow, showing that heliotrope can be substituted with advantage for quinine. The plant, it is stated, has for some time been in use as a popular remedy against fevers in Russia, in Turkey and in Persia. In each of these countries a tincture is prepared by macerating in alcohol the leaves and stalks of the plant.

TWO CASES OF PREGNANCY COMPLICATED WITH TUMORS.¹

SERVICE OF DR. E. H. BRADFORD, *Boston City Hospital.*

BY JAMES R. CHADWICK, M.D.

ON January 22, 1890, Dr. Bradford invited me to visit the City Hospital and examine two patients whose diagnosis had been the subject of much discussion and varied opinions. I did so; and after careful examination, had to confess with chagrin that in neither instance could I clear up the doubts. I was not contented, however, but returned the next day and succeeded in eliciting data for diagnosis which in both cases subsequently proved correct. As the cases were both grave and peculiarly complicated I have secured Dr. Bradford's permission to report them to this Society, making use of the hospital records.

I. PREGNANCY AT THE EIGHTH WEEK COMPLICATED WITH MULTIPLE FIBROIDS OF THE UTERUS.

Mrs. McK., thirty-four years of age, entered the hospital January 17, 1890, having been married but a few months. Menstruation had always been regular until two months before when it had ceased. Nausea and vomiting had been most marked mornings. The breasts had been growing larger. For two weeks almost nothing had passed the bowels; attempts at defecation had caused pain in the suprapubic region and down the thighs. Micturition had been difficult.

Examination showed the pelvis to be filled with a hard, rounded mass (like the fetal head at full term) rising into the abdomen above the navel, its upper surface being irregularly lobulated; low down to the left was a specially prominent nodule, yet firmly connected with the main mass. Both flanks were tympanitic. Per vaginam the cervix could just be reached by the finger, it was anterior to the pelvic tumor above the pubes and a little to the left of the median line.

The rational signs pointed exclusively to pregnancy; the physical, exclusively to fibroids of the uterus. Were both groups of signs correct, or was one misleading? I elicited the additional facts that she had been conscious of a lump in the lower abdomen for a long time, and had observed a decided increase in its size during the last two to four weeks; also, that constipation, which had been habitual, was so increased of late, as to amount almost to obstruction of the bowels. From these and the previous data I argued that multiple fibroids had existed for a long time, but that the recent growth was too rapid to be explained on any other assumption than that pregnancy had supervened. This reasoning reconciled the diverse signs, and led to a diagnosis of multiple fibroids complicated with pregnancy at the second month. As the fibroid in the pelvis already obstructed the bowels, and could not be dislodged, and presented an insuperable obstacle to the passage of a child later, immediate relief by operation was unmistakably demanded. Laparotomy was accordingly done by Dr. Bradford on January 27th, by a median incision of the abdominal wall. The fibroid mass in the pelvis was only extracted after many efforts at traction from above combined with pressure from the vagina. A clamp was put about the supravaginal cervix, and the mass of uterine body and fibroid tumors removed. The stump was treated extra-peritoneally.

¹ Reported at the meeting of the Obstetrical Society of Boston on June 14, 1890.

The pain after operation was incessant, requiring much morphine. The vomiting was persistent; nutritive enemata were ejected after the third day. The bowels were not moved. The dressing was changed twice, when the wound was found aseptic. She died on February 4th (eighth day) of peritonitis.

An examination of the mass removed showed a six to eight weeks' ovum in the cavity of the womb.

Exploration of the abdominal cavity after death showed the wound to be clean, but just above the stump was a mass of intestines bound together by delicate fibrous adhesions. There was no pus.

II. PREGNANCY AT FIVE OR SIX MONTHS, COMPLICATED WITH AN OVARIAN CYST.

Mrs. K. L., entered the ward January 23, 1890. She had had three children, the youngest being fifteen months, and still being nursed. The patient had menstruated once six months before, but not since. The abdomen had always been large, but had increased greatly in the past five weeks. There had been no subjective symptoms.

On examination the abdomen was found to be enlarged to the size of pregnancy at full term. By palpation and percussion a soft tumor was recognized, rising from the pelvis and filling nearly the whole abdomen. A transverse sulcus could be made out three inches above the umbilicus, above which fluctuation could be detected, but not below. Just above the pubes on the left side, the mass was more resistant, and at that point a distinct *bruit* could be heard.

The vagina was moist and soft; at its entrance I recognized the sign of pregnancy to which I have so often called attention as having great value when present, the bluish discoloration. While this sign alone I regarded as sufficiently characteristic to warrant the diagnosis of pregnancy, it was confirmed at my second visit by feeling ballottement of the fetal head.

Her distension was already so great as to threaten serious results if pregnancy were allowed to go to full term. Under these conditions Dr. Bradford made a median incision of the abdominal wall on February 4th, and removed a bilocular ovarian cyst, severing some slight adhesions to the uterus and intestines. Pregnancy existed at the fifth or sixth month. The patient made a good recovery, without requiring any opium.

On the fourth day after operation the patient was delighted to feel fetal movements. The abdominal incision healed by first intention. On the thirteenth day the patient sat up, and on the nineteenth day made her own bed, without permission. On February 27 (twenty-second day) the patient was discharged from the hospital.

The former of these cases illustrates the importance of recognizing the sudden, rapid growth of fibroids as occurring only under the stimulus of pregnancy; and the other, the value of the blue discoloration of pregnancy; to both of which points I have drawn attention in previous papers.

— A dentist was recently tried for manslaughter in Switzerland, a patient of his, a young girl, having died after an injection of cocaine into her gum. The court held that it was not proved that the administration of cocaine was the cause of death. The defendant was, however, fined fifteen francs for the illegal practice of medicine, cocaine being an anesthetic which should be administered only by a qualified physician.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D.

OCULAR DISEASES FOLLOWING THE INFLUENZA.

FUCHS¹ reports four cases of tenonitis, that is, inflammation of Tenon's capsule with exudation into the space which separates it from the eyeball, following the influenza.

In the first case the conjunctiva was injected, edematous, and thickened; upwards and outwards from the cornea, it presented a loss of substance laying bare the sclera; a similar gap was present below the cornea, about over the anterior limit of Tenon's capsule. Purulent secretions escaped from both these openings. There was pus in the anterior chamber; the pupil was small and adherent; tension was reduced and light perception lost. The patient suffered also from catarrhal pneumonia. Pneumococci were found in the pus which escaped from Tenon's space; mice inoculated with the pus died of septicemia, and from them again cultivations of the cocci were obtained.

In the other three cases, the symptoms suggested a retrobulbar abscess, and in one an incision was made through the upper lid deeply into the orbit, but in all three cases the exophthalmus subsided in a few days, and at the end of two weeks the eyes were quite normal.

In the latter three cases, as there was no perforation or pus, it must be taken for a fact that the process was not suppurative, but serous or plastic. The great edema of the conjunctiva as compared with the moderate exophthalmus, the extreme impairment of the movements of the globe and the absence of changes at the optic disc, point to Tenon's space as the situation of the inflammatory exudation.

Primary tenonitis is rare. It may be purulent or non-purulent. Purulent may follow the use of unclean instruments in an operation for squint. The cause of the non-purulent variety is obscure. In many cases it is attributed to a cold.

Fuchs suspected that the cause was the influenza, because his cases all came under treatment within fourteen days, and before that time in a very large clinic, he had met with only one well-marked case.

Landolt² says that the most frequent ocular complication observed by him during the recent epidemic, was a special form of conjunctivitis, which came on usually during convalescence. Both the ocular and palpebral conjunctiva were affected and the episcleral tissue in many cases participated in the inflammation, the affection being in truth more an episcleritis than a conjunctivitis.

Fage³ records thirty-two cases in which the eye or its appendages were affected in connection with influenza. Most of the cases recorded, were ordinary varieties of conjunctivitis or corneal ulcers and paralyses of the recti muscles. He reports one case of amblyopia without ophthalmoscopic change.

ASTIGMATISM FOLLOWING CATARACT OPERATIONS.

Burnett⁴ says that the regular astigmatism following cataract extraction is not considered of sufficient importance by most operators, to be taken into account in the fitting of glasses in routine cases. The vision

¹ Wiener Klin. Wochenschrift, 1890, No. 11.

² Schweiz. Med. Wochenschr., 1890, No. 3, Ophthalmic Review, July, 1890.

³ Archiv d'Ophthalmologie, March and April, 1890, p. 138; Ophthalmic Review, July, 1890.

⁴ American Journal of Ophthalmology, December, 1889.

of the majority of those operated on for cataract, does not exceed $5/18$, but as this is usually sufficient for the needs of ordinary life, there is a feeling of satisfaction and content on the part of both surgeon and patient, and no effort is made to secure anything better than can be had with spherical lenses alone.

Our author states that his ophthalmometric measurements agree with those of all other investigators, in showing that the astigmatism of a healthy cornea has its greatest refraction in the vertical meridian (axis horizontal). His examination of the cornea of the eyes which have been operated on for cataract agree with those made by Scimeni, in showing the meridian of greatest refraction to be the horizontal (axis vertical) or approaching it. As the incision in cataract extraction lies either upward or downward, the inference is that the manner in which the wound heals has something to do in bringing about this change.

Weiss⁴ supposed this to be due to a failure in exact coaptation of the wound, the lip of the flap coming forward in advance of the scleral edge of the incision. Scimeni, however, has shown by calculation, that in the larger number of cases, the great amount of astigmatism found could not be produced in this manner, since it would necessitate such an advance of the flap as to remove its inner edge beyond the outer edge of the scleral lip of the wound. Such a condition, however, undoubtedly does cause some of the astigmatism by increasing the radius of curvature in the vertical meridian, but does not produce it all. Burnett, as well as Scimeni, has found that there is nearly always associated with the diminution of refraction in the vertical meridian, an increase in the refraction in the horizontal.

Scimeni accounts for the phenomena by a contraction of the recti muscles, causing a gaping of the wound and a separation of its edges, and not simply by a sliding of the anterior lip forward as advocated by Weiss. Such a gaping of the wound would undoubtedly produce the phenomena observed, but whether this gaping is caused by a contraction of the recti muscles or by pressure of the lids, or by some fault in the incision itself, or by all three, Burnett still considers an open question. That this astigmatism should be more considered in ordering glasses than it is at present, is undoubtedly true, but the astigmatic corrections should be delayed for several months after the operation.

It has not yet been determined that one method of extraction has any advantage over another, in lessening the tendency to change in the form of the cornea, for those cases where extraction is made without iridectomy are as frequently attended with astigmatism as when it is made with iridectomy.

PERIPHERIC COLOR-SENSE.

Carl Hess⁵ under the guidance of Professor Hering in the Physiological Laboratory at Prague, has investigated once more the color-sense of the periphery of the retina, and some of the results obtained are an important addition to our knowledge of the subject.

Discs, three centimetres in diameter, were cut from various colored papers of dull surface, and viewed against a uniform white or black background. The observer's eye fixed the central point of the background, while an assistant moved a colored disc, in a radial di-

rection, either towards or away from the fixation point. Whatever the real color of the disc, it appeared, when it first entered the periphery of the field, to be colorless — white if the background were black, gray or black if the background were white. When moved a little nearer to the fixation point, it appeared in nearly all cases to be either blue or yellow. Each disc was withdrawn as soon as the blue or yellow appearance was perceived and all the discs thus employed placed in two groups, according to whether they appeared blue or yellow. The blue group was found to contain all the following colors: bluish-green, blue-green, blue, violet, bluish-red, and rose-red. The yellow group contained the following: spectrum-red, orange, yellow, green-yellow, and all the yellowish-greens.

When, in the same manner as before, a colored disc was moved towards the fixation point rather further than before, the initial appearance of blue or yellow changed, and tended toward red or green, according to the nature of the color employed. Grouping the discs as they appeared to tend towards red or green, the red group contained reddish-yellow, orange, yellowish-red, red, bluish-red, violet, reddish-blue, and rose; while the green group contained greenish-yellow, yellow-green, green, bluish-green, blue-green, and greenish-blue.

Reversing the experiment, the discs were moved from the centre toward the periphery of the field. Each disc, whatever its actual color, appeared in nearly all cases to lose this color and to become either pure blue or pure yellow, before it ultimately became colorless. For example, two similar violet discs could be so placed, one nearer to the fixation point than the other, that the one appeared in its true color, the other pure blue.

To this rule there are four exceptions. Pure blue and pure yellow undergo no apparent change except a loss of saturation; pure green and a certain red (not spectrum-red) do not, like all other greens and reds, appear to change into blue or yellow, but appear in their true colors up to the point at which they appear colorless.

It is possible, then, to find four colors, a blue, a yellow, a red, a green, which in indirect vision change only in saturation, not in color. They correspond to the four fundamental color-perceptions of Hering. The retina affords the means of determining them in a purely experimental manner, which is independent of all theories. They are, in themselves, definite and constant, but this does not imply that in successive experiments, conducted under varying conditions, precisely the same colors would be selected, for it would depend much on the nature of the illumination and upon the condition of the retina whether slight variations of color were perceived or not. Further, it must be noted that in conducting such experiments, it is important to exclude the region of the macula lutea, for the excess of retinal pigment in this region causes chromatic absorption and modifies color perception. Where great accuracy is required, therefore, only the extra-macular portion of the retina, that is, the part which lies more than about eight degrees from the fixation point, must be employed.

For the purpose of such comparison, it is necessary to employ colors which have the same white-value and the same color-value — that is to say, which excite color-perception with equal intensity. Two colors have the same white-value when in indirect vision they

⁴ Annali di Ottal. Anno xviii, fasc. 4, 5, 1889.

⁵ Von Graefe's Archives, vol. xxxv, part iv, p. 1.

both become invisible against the same gray background. They have the same color-value when their mixture, in equal quantities, appears colorless to the color-seeing zone of the retina. Experiment has shown that when a red and green disc of equal size, and of equal white- and color-values, are moved along the same radius of the visual field, they become colorless at the same distance from the fixation point. The same is true of the unchanging blue and the unchanging yellow.

EXAMINATION OF THE FIELD OF VISION.

Bjerrum⁷ proposes, what he considers, a useful addition to the useful method of examining the field of vision. The addition consists simply of making use of white objects which subtend a very small visual angle. The test objects generally employed in perimetric measurements are from one to two centimetres in diameter, which, at a distance of thirty centimetres, the radius of the perimeter arc, correspond to a visual angle of from two degrees to four degrees. Their images must therefore cover many thousands of retinal elements, so that the test is far from being a fine one, and nothing at all comparable to the tests made for direct vision. In order to be able to work without difficulty with small visual angles it is necessary to move the patient away some distance from the plane in which the test-objects lie. Bjerrum has generally made these examinations at a distance of two metres, using a large black screen which can be let down from the ceiling to the floor, and which is placed on the wall opposite the space between two windows, so as to get good light all round. The screen has, of course, to be pretty large (two metres in breadth), as at the distance of a couple of metres the blind spot, instead of measuring about an inch, as on an ordinary perimeter, measures seven inches in diameter; and everything else is in the same proportion. A screen two metres in diameter will admit of testing up to about twenty-seven degrees from the point of fixation, if that be in the middle of the screen; to about fifty-four degrees if it be at the edge.

PROPER ILLUMINATION FOR RETINOSCOPY.

Jackson⁸ in an article upon "Retinal Illumination for the Shadow-Test," says that the incandescent electric light does nicely for the measurement of simple myopia or hyperopia, but its shape quite unfit it for the detection of astigmatism, and that the best light is had by a circular flame, as in the Argand burner, "student lamp," or "duplex" burner for oil lamps. To get the sharpest boundary between light and shade, the source of light must have a sharp boundary; and the rays from it be focused upon the retina. The margin of any flame is somewhat nebulous, there is a somewhat gradual transition from light to darkness, and on this account, it is better to have recourse to the opaque metal chimney, for it shuts off this nebulous margin and gives a sharp boundary to the source of light. If the opening through which the light proceeds is made circular, its shape is more favorable than that of a flame for the detection of astigmatism.

While it would be desirable to have the source of light reduced to a single point, it is not practicable because: first, a single point, unless it be of the electric arc, would not give as much light as is required.

⁷ Nordisk Ophthal. Tidsskrift, II, 3, Ophthalmic Review, April, 1890.

⁸ Ophthalmic Review, February, 1890.

Second, if the source of light be smaller than the sight-hole of the mirror, it will disappear in it every time the mirror is rotated, causing great annoyance and uncertainty. It is this matter of the sight-hole that really limits the exactness possible with the shadow-test. The size of the aperture for the source of light, which has proved most satisfactory to the writer, is a circle eight or ten millimetres in diameter to be cut from the metal chimney at such a height as to come opposite the brightest part of the flame. The sight-hole in the mirror is three or four millimetres in diameter.

INTRAOCULAR EXAMINATION WITHOUT AN OPHTHALMOSCOPE.

Koller⁹ writes of a device for the intraocular examination of the eye without the use of an ophthalmoscope.

It is an old and well-known experiment that the fundus of an eye becomes visible without any further apparatus when the eye is placed under water, and, provided the pupil is large enough, one sees the optic disc and the retinal blood-vessels clearly defined in about their natural size. The reason for this is, that the exterior surface of the cornea, the most active part in the whole dioptric system, no longer borders on the air; but is surrounded by water, which has the same index of refraction as the corneal substance, and, therefore, eliminates the cornea in an optical sense.

Several years ago Bellarmainoff advocated the examination of the fundus by the following method: He anesthetized the cornea with cocaine, and dilating the pupil, pressed a plain glass plate against the cornea, thus flattening it and eliminating its optical action.

Koller's method is simply a modification of Bellarmainoff's. He had glass shells made similar to artificial eyes with the plain surface on the outside. Such a shell is easily inserted into the conjunctival sac in front of the eye, previously anesthetized by cocaine, and is so nicely kept in place by the lids that it is unnecessary to press the glass plate against the cornea. The pupil is previously dilated with homatropine. If the conditions are favorable, that is, if the anterior plane surface is moistened with a drop of water and strong light, either the light of a white cloud or an artificial light, is thrown into the eye by means of a reflector, the optic disc and retinal muscles appear with great clearness. The small size of the vessels presents a striking and unexpected appearance, as they are seen only their actual size, instead of being magnified as we are accustomed to see them in the ordinary method of examination. The large area seen by this method is somewhat remarkable.

Koller suggests that this device may have some possible practical value in determining the location of echinocci, foreign bodies, or membranes in the vitreous.

He thinks that elimination of the cornea will probably allow a better view, and more natural conception concerning the extent and situation of such membranes.

OPERATION FOR MEMBRANES IN THE VITREOUS.

Bull,¹⁰ in an article upon "The Surgical Treatment of Fixed Membranous Opacities in the Vitreous," reports a series of twelve cases, which, in addition to seventeen cases reported by the author in 1888, make twenty-nine in all, in which the membrane was lac-

⁹ American Journal of Ophthalmology, July, 1890.

¹⁰ Ophthalmic Review, June, 1890.

erated by a knife or needle thrust through the sclera between the external and inferior recti muscles, just in front of the equatorial region, parallel to the plane of the iris, and behind the lens. In many cases no fixation forceps were employed to rotate or steady the eyeball, and no loss of vitreous occurred through the small opening in the conjunctiva. Little or no reaction followed, save in exceptional cases; and the application of a protective bandage, and the instillation of atropia, were needed but for a few days.

The facility and thoroughness with which laceration may be done, depend largely upon the position of the membrane in the vitreous. If the membrane is far back, it is more easily reached in the proposed operation.

In regard to the improvement of vision, our author states that laceration of a membrane in the middle or posterior parts of the vitreous always, or nearly always, promises improvement of the sight, if no serious lesion of the fundus is present. If the membrane runs fore and aft in the vitreous, and especially if it is attached anteriorly to the posterior lens capsule, the chances of improving the vision are comparatively slight, though even in such cases, the writer has seen decided improvement in vision following the operation, especially in eccentric vision.

EVISERATION OF THE EYEBALL.

Prince,¹¹ in an article upon "Evisceration of the Contents of the Globe," states that he early found that the pain was more prolonged and severe than in enucleation, and that the healing was more protracted. He thought the pain due to the effects of pressure and inflammatory irritation on the long ciliary nerves left exposed by the operation, as they run forward in grooves on the concave surface of the sclera. He, therefore, was led, at the completion of the operation, to cauterize the whole interior of the sclera with pure carbolic acid. The use of carbolic, in this way, seems indicated both for its antiseptic and anesthetic powers.

It closes the tissues subjected to it against the adhesion of micro-organisms; and it destroys the power of the sensory nerves to give rise to pain.

He advocates packing the scleral cavity with powdered iodoform. After some weeks the mass of iodoform is expelled; but there seems to be some gain in the final stump. In none of the cases packed with iodoform was there subsequent suppuration.

THE ANILINE VIOLETS AS ANTISEPTICS.

Stilling¹² reports several cases of hypopyon-keratitis with deep marginal ulceration of the cornea, in which the healing took place under methyl-violet and auramine so rapidly that he predicts that this treatment will soon replace actual cautery in these affections. He saw immediate improvement in a case of sympathetic ophthalmia in a boy when the aniline solution (1 to 1000) was dropped in the eye.

Stilling explains the powerlessness of the antiseptics hitherto in use to arrest suppuration which has once begun by the fact that they readily form precipitates, and are not diffusible. Some aniline colors, and particularly the violets, possess, according to Stilling, all the properties of a good antiseptic, as they not only readily kill micro-organisms, but quickly permeate the tissues in which suppuration has taken place. The result of bacteriological experiments, made in conjunc-

tion with Wortmann, was to show that aniline violets retard the development of bacteria, even in such feeble solutions as 1 to 64000. More concentrated solutions (1 to 1000 and 1 to 2000) were found to kill at once the bacteria which might be present, and altogether prevent their further appearance.

Berry¹³ says, in reviewing the above paper: "A therapeutic agent which is brought to one's notice with such a flourish of trumpets must, one would imagine, possess some of the advantages claimed for it. It is hardly likely that others will be able to confirm Professor Stilling's report in all particulars, even although they should hold the same views as to the micro-organismal character of the various inflammations met with in the eye. From some personal experiences of methyl-violet in the solution of 1 to 2000, I can confirm its non-irritating nature and its diffusibility; but I have not seen that it has any power in checking suppuration at all, and, indeed, its antiseptic properties seem to me to be but slight."

Clinical Department.

SUDDEN DEATH PROBABLY FROM ÖDEMA OF THE GLOTTIS.¹⁴

BY FRANCIS MINOT, M.D.

THE patient was a lad, seventeen years old, who had always enjoyed good health.

On Monday, October 20th, he complained of pain in swallowing, and was first seen by Dr. Minot on Tuesday afternoon. He was in bed; pulse, 100; breathing perfectly quiet and natural. His only complaint was difficulty in swallowing, from pain. The voice was thick, as if from inflammation of the tonsil. In fact, the left tonsil was swollen, and could be felt from the outside. The palate and fauces were somewhat redder than usual. There was no deposit or membrane to be seen on either tonsil, or on any other part of the mouth or fauces. The temperature at 6 P. M. was 101.8°.

On Wednesday morning, October 22d, the pulse was 84, temperature 100.6°. His sleep had been disturbed by the pain in swallowing, but he felt much better. No exudation could be seen. A puncture was made in the swollen tonsil, but no pus was reached. There was moderate bleeding from the incision, which appeared to afford relief. No fetor of the breath could be perceived. The breathing was perfectly free. He continued to improve in his general condition during the day, and towards evening he got up, of his own accord, dressed, and went down to dinner with the family. He was able to swallow two tumblers of milk, and was in the best of spirits. After dinner, went up to his bed-room without the least difficulty. When seen afterwards by Dr. Minot his pulse was 76, temperature 100.8°. He was very cheerful, and said he felt much better. After going to bed he slept quietly for an hour and a half, and then awoke suddenly with a feeling of suffocation. He went to the bath-room, adjoining, gurgled his throat, and returned to bed. He had hardly lain down before he expired.

A digital examination of the mouth and fauces was made soon after death, but nothing abnormal was dis-

¹¹ Journal of the American Medical Association, October 12, 1889.

¹² Revue Générale d'Ophthalmologie, ix, 4, April, 1890.

¹³ Read before the Boston Society for Medical Improvement, October 27, 1890.

¹⁴ Ophthalmic Review, July, 1890.

covered beyond the swollen condition of the left tonsil. There was no autopsy.

The death was evidently caused by some sudden obstruction to the breathing at or near the glottis. It is possible that the case was one of diphtheria, in which the exudation was confined to the larynx, a fragment of the membrane having become detached and arrested at the glottis; but there had been no special symptom of diphtheria, and not the slightest difficulty of breathing until just before death.

A more probable explanation of the sudden death would be œdema of the glottis, the result of extension of the pharyngitis to its immediate neighborhood.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

G. G. SEARS, M.D., SECRETARY.

REGULAR Meeting, Monday, October 27, 1890,
DR. W. L. RICHARDSON in the chair.

ANATOMICAL SPECIMENS.

DR. A. T. CABOT showed a calculus removed from the ureter of a woman through the vagina, and also read a paper on

THE NON-OPERATIVE TREATMENT OF ENLARGED PROSTATE.¹

DR. F. S. WATSON: There are several things which I would like to speak of in this connection. The large majority of cases which come under one's observation require the non-operative, rather than the operative, treatment, and they form far the more important class of the two. The question as to when to use the catheter, to institute catheter life, is one which I think comes most prominently as the first and most important question. As a rule one has not the choice, for the reason that the patient generally does not seek relief until the symptoms have become very decidedly annoying, and then interference is almost always required. I do not know that an absolute rule can be laid down as to the amount of residual urine which should determine the use of the catheter. The plan which I think a fair one to act upon is that when the residual urine exceeds two ounces, and the patient is suffering from more than one or two calls during the night to urinate, that the catheter should be used, and, if it works well, continued. The quality of the urine is another factor in deciding whether the catheter should be used. Where the urine is clear, and there is no special irritability, and the amount does not exceed more than two or three ounces, then it is safe, with occasional testing to see that it is not increasing, to leave that bladder alone, as a rule, as far as the catheter is concerned. Where, however, there is pus or mucus or blood, the necessity of catheterization is much greater. In regard to the passage of the catheter, there is one little point which is often noticed by the surgeon, and that is that the patient will frequently be able to pass the catheter in one position more easily than in another. One patient passes it more easily lying down, another sitting on the edge of a chair, another standing up; and sometimes the difficulty may be entirely overcome, if there is a slight obstruction to the

passage of the catheter, by change of position. I am very glad Dr. Cabot accentuated the precaution in regard to the beginning of catheter life, with reference to the care with which it should be surrounded, because in spite of all the warnings uttered on this subject, I do not think that that is borne in mind sufficiently. I cannot help thinking that it is a frequent practice, especially away from large medical centres, for the practitioner to keep a silver catheter knocking about in his case, and when a patient comes in with retention, in the most dangerous stage of prostatic enlargement, he takes it out of the drawer, pushes it into the bladder, and empties the whole bladder at once. That I do not think can be too strongly condemned. As Dr. Cabot says, the soft rubber catheter, when possible to use it, should be used. The cleanliness of instruments is another problem which is very difficult, and one very often neglected. The plan I have adopted is to keep the red rubber catheters in carbolic acid, in which they can be kept for years without becoming brittle. I instruct the patient to get one of these tubes in which to keep the catheter. The catheter is washed with warm water before and after using, in order that the carbolic acid may not be too irritating. The form of catheter, which is the one that I think, as a general rule, will pass in more cases where there is a difficulty than any other, is the *coudé* catheter of Mercier. The elbow of this instrument can be made longer than it is by using the stylet of Guyon, which can also be introduced into the catheter in such a way as to make it into a *bicoudé* or double-elbowed catheter. These two forms of catheters, the *coudé* and *bicoudé*, I think will pass in the difficult cases, as no other forms of catheters will. I have never had to use the silver instrument, and I don't believe I ever shall use one. Except in trained hands they are exceedingly dangerous, and are responsible for many false passages. As to the frequency of the use of the catheter once its use has been begun. That, of course, must be determined by circumstances. If the patient has a very irritable bladder, in spite of the daily passage of the instrument, there is no harm in the nature of things in passing the catheter more often. Where no urine can be passed spontaneously, it is well to imitate the frequency of the natural calls to urinate, using the catheter once in three or four hours. It may prove to be harmful, and if it does, other means must be considered, as, for example, drainage of the bladder, cystostomies, etc., that is if the case goes on from bad to worse. The character of the urine as indicating renal incompetence is of the utmost importance, and it is the danger signal in these cases. Low specific gravity and the neutrality of the urine are pretty sure indications that the person with enlarged prostate has damaged kidneys, and that you are going to have trouble ahead. The dangerous class of cases are those that come with overfilling bladders, where there is incompetence of the bladder, the patient coming in that way to the surgeon for the first time. He is almost sure to have damaged kidneys, and whether you catheterize or don't, he is probably going to die. If you catheterize, catheterization gets the blame. A suggestion which Mr. Harrison made is valuable in this connection, and that is aspiration of the bladder over the pubes with a fine needle, which obviates the introduction of air or dirt into the bladder, a thing which is likely to occur, and his suggestion is well worth considering. He has met with marked success in treating these large overdistended bladders

¹ See page 529 of the Journal.

with sometimes repeated aspirations, in one or more cases instituting the catheter later. The dangers of aspiration are comparatively small.

The subject of bladder washes, when the urine is alkaline and foul with pus, I think Dr. Cabot did not speak of. I have no question, however, that he considers it a decidedly important part of the treatment in certain stages of the trouble with regard to this matter. I think that one may be pretty well satisfied that the attempt, which was made a few years ago to clean up these dirty old bladders with the strong antiseptic solutions, is a failure, and that they should not be used. Corrosive sublimate solutions and carbolic acid I do not think are successful, and they are apt to produce more pus, more mucus and irritation. The milder remedies, as borax and glycerine, or boracic acid, or permanganate of potash, where the cystitis is comparatively mild, are desirable. Where there is a great deal of mucus, and the urine is foul, nitrate of silver in weak solutions — one-fourth grain to the ounce, making it stronger if it works well — is decidedly beneficial.

The method of injection of the bladder is another important matter, — whether one shall fill up the bladder as full as it will hold, or put in a small quantity and let it run out. The former creates more irritability, and the latter method is the better one I think.

The atony of the bladder dwelt upon by the textbooks is regarded by most of them as a great misfortune. In my experience those have been the cases which have done well. They are the patients who do not have irritability of the bladder, and unless they have a very dirty urine, in which case they may do badly, they go on exceedingly well, as far as I have seen them. I rather greet them with pleasure; it is the small, hard-walled bladders that are the miseries.

In the early part of the disease, it is the practice of many to give diluents, and mineral waters, and specifics for allaying the irritability of the bladder. These are more or less diuretic, and unless the catheter is used regularly, are deleterious in that they increase the strain upon the bladder and back-pressure on the kidneys.

In restoring partially the atony of the bladder where it is marked, electricity and strychnia may be of value. It is important to recognize the point at which cases begin to go on from bad to worse, in order that you may advise operation over and beyond what you have done in the way of the palliation, of routine treatment, the latter failing.

DR. A. POST: It is not easy to add very much to the interesting paper of Dr. Cabot. He certainly has treated a most interesting subject in a most interesting and very thorough manner. The great majority of cases certainly do well with such palliative treatment as Dr. Cabot has outlined. There is one class of cases, which I see something of, which is difficult to manage, and that is the lowest class of hospital patients, men whose hands have been accustomed to no more delicate instruments than pick and shovel. They do not take readily to handling a small catheter, and it is a pretty delicate matter to teach such a man of seventy-five or eighty to handle so slight a thing. It requires a good many days, and a good many patient lessons with some of those patients. They can be made to do well in hospitals under proper supervision, only to relapse again when they go out. In such patients I

think that recourse to operation is justifiable much sooner than in patients with much more intelligence.

I was very glad indeed to hear Dr. Cabot speak in the way that he did in regard to the first use of the catheter. It is a delicate matter to interfere with a bladder that has a certain amount of residual urine, with kidneys, and perhaps heart, more or less damaged, and it is a very great temptation to do it in your own office. The patient comes perhaps from a distance. It is very inconvenient to see him elsewhere, and still he ought to be in his own house and in his own bed. Such patients it is sometimes necessary to send to the hotel, have them stay there over night, perhaps have them go home and come back again before you can really pass a catheter on them. Of course, such a precaution is an extreme one and may be unnecessary in many cases. To make that the rule is certainly to avoid some occasional unpleasant experiences.

I want to say a word in favor of the old English catheter, not to dispute in the least, anything that has been said in regard to the flexible catheter, French pointed elastic or the *coudé*. I heartily agree with Dr. Cabot's remarks in regard to them, though it seems to me he places the size of his flexible catheter a trifle small at number six. There is so much that can be done with the old English catheter, and it is so much the fashion to advise a modern one, that I have sometimes dreaded lest the old English catheter should go out of the market. The way in which they may be softened and manipulated by means of the stylet, made into the *coudé* or *bicoudé* ought to be remembered. Putting patients to bed and tying the catheter in has certainly proved a very valuable method in my hands.

The condition of the urethra in patients who first enter upon the habitual use of the catheter is a thing that I think ought to have some mention. I have, on more than one occasion, found strictures in the anterior urethra that could be overcome with comparative ease. I remember one man who came from the country entirely unable to pass a catheter. He seemed to have had some constriction which had irritated by trying to pass a catheter that was too large, and then by trying to pass one that was very small. A very few days' practice with catheters of gradually increasing size restored the calibre of his urethra and the condition of his mucous membrane so that he was able to again catheterize himself. Patients are sometimes alarmed by little accidents that happen to them in the use of the catheter, as sometimes a slight hematuria, and sometimes an epididymitis. An epididymitis is not a very unusual result of the habitual use of the catheter, and patients are oftentimes needlessly alarmed about it. It is a question what shall be done with patients with an inflamed testicle; but my experience in a few cases has led me to think that the use of the catheter may be continued during an epididymitis, provided the patient takes extra care during its introduction, and treats his inflamed testicle in a proper manner at the same time.

DR. J. HOMANS, 2ND: I wish to say a word as to the catheter itself, and to call attention again to the dust and dirt which may be concealed in the small space between the opening and the end of the catheter. Here may lurk the germ of many a case of cystitis. To avoid this, I have had made a silver catheter which I still venture to prefer, with the end filled solidly and the metal slanting opposite the eye, which is made

rather larger than in the ordinary catheter, so that there is no cavity at all beyond the eye. At the Home for Aged Men, where I am the physician, there are about fifty inmates varying in age from sixty to ninety-four years, of whom certainly ten use the catheter every day, yet with the use of the silver catheter there has not been a case of cystitis for six years.

DR. WATSON: There is one form of soft catheter which also has the end filled up. For years there have been attempts made to do that in the soft catheters. Codman & Shurtleff have an English catheter in which there is no *coul-de-sac* beyond the eye, and that can be made into the *condé* or used with the stylet. One often neglects to tell patients how often to change the catheter. These catheters crack, and occasionally you will find a patient rasping his urethra as with a file, with one of these cracked catheters. I don't think one catheter should be used more than three weeks or so, and with the utmost care taken to keep it absolutely clean, and then discarded for a new one.

DR. F. MINOT asked the reader if he had seen any advantages from the internal administration of drugs, as for instance, salol.

DR. CABOT said that in cases in which there was no residual urine he had seen very good results from the administration of benzoate of soda, boracic acid and salol. They all cleared up the urine very decidedly in cases where there was no residual urine, or where that was thoroughly drawn off.

Dr. Cabot, in closing the discussion, said that he had always been interested in getting rid of the dead space in the end of the catheter, and had spoken of it at length in a paper on the application of antiseptic principles to genito-urinary surgery some years ago. The soft rubber Jaques catheters differ very much in the size of the space, and by going over a large lot, several can generally be selected which have little or no pocket below the eye. The silk web catheter that Dr. Watson speaks of is a very good one, but many patients cannot get it into the bladder. It is a little too stiff for a soft catheter. A stylet cannot be worked with it very well, because, there being no pocket for the end of the stylet to fit into, there is some danger that it will escape and protrude. The reader said in regard to the size of the catheter, that Dr. Post spoke of number six (English) as small, and he used to think so too, and was taught to use a large catheter, but the more he had seen of these patients the more he had come to appreciate that a catheter that slips in without a sensation causes much less irritation than a larger one. If the urine does not contain mucus, a number six catheter draws it thoroughly, and at the same time slowly. It is another advantage that the bladder is then not emptied too abruptly. He said there were a great many points he did not speak of in his paper, because he wished to consider the mechanical rather than the clinical part of the subject. Low specific gravity is a most important point in deciding the condition of the kidneys. He said he had examined the urine repeatedly without finding a single cast, or any other evidence of kidney trouble; the low specific gravity being the only thing which pointed to a serious disturbance of them. He said he should like to ask Dr. Watson how many times a day Mr. Harrison did aspiration.

DR. WATSON said that Mr. Harrison quoted two cases, one in his own hands. He said it was completely successful, and that aspiration was continued for two

days, something like eight or ten aspirations in all. In the case he quoted, I think there were thirty-two or forty-two aspirations in something like six or eight days with no infiltration of urine following into the prevesical space, and with great benefit, the patient afterwards resuming the use of the catheter.

DR. CABOT said that he had seen aspiration used in that way and successfully, for the relief of the immediate condition, but the patients in the cases he had seen had always required other measures. In one case he was sent for to crush a stone detected by the aspirating needle.

In regard to the question of distending the bladder when washing it out, he said that he agreed with what Dr. Watson had said, and that it is best generally not to distend the bladder; this was Sir Henry Thompson's teaching. He had seen, however, in some cases of large, sacculated bladders, great good resulting from a complete distention during the washing out. It is only in this way that the side pockets can be reached and thoroughly cleansed. He said he had used strichnia and also ergot for atony, sometimes with benefit. Both of them have, however, had occasionally one uncomfortable effect in some patients, namely, they have caused so firm a contraction of the prostate that they have increased the obstruction, doing more harm in this way than they have done good, by increasing the power of the contractions of the bladder.

DR. R. M. LOVETT read a paper on

ACUTE CIRCUMSCRIBED ÖDEMA, WITH A REPORT OF THREE CASES AFFECTING THE HAND.²

DR. C. F. FOLSOM: I have seen a few cases of this disease. A few occurred when I had the out-patients of the City Hospital. They were cases of acute circumscribed ödema of the lower lip, and some of them lasted I think, for a month. They were typical cases, such as Dr. Lovett has described. They occurred in very much debilitated young girls, and the treatment was chiefly tonic. The third case which I saw was very extraordinary. It was in a lady about sixty years of age, where the ödema involved nearly the whole of the right leg. The condition there was rather different from the two cases I had seen, and those Dr. Lovett described, and most if not all of those on record. The leg was exceedingly hard and pitted slightly to the touch. At least one, and I think several gentlemen made a diagnosis of intrapelvic organic trouble, and probably malignant. Much to the surprise of everybody, in the course of four or five weeks the leg returned to its normal condition. That condition recurred at least three times, and I cannot say whether it recurred oftener than that or not.

A certain amount of ödema, which practically cannot be distinguished from this acute circumscribed ödema, occurs in the various forms of peripheral neuritis. I remember seeing a case not long ago of a lady with peripheral neuritis, I think it was universal peripheral neuritis finally which proved fatal, and the organic changes in the nerves were much greater than I had seen in fatal cases before, or had found on record.

DR. F. GOSS: Within a month a lady came to me with what I suppose was an example of this affection, about the eye, the inner canthus. It had come on suddenly without pain, and disappeared after three or four days without any treatment to speak of. A fortnight

² See page 409 of the Journal.

later her husband came and said the trouble was recurring. I told him I presumed it would disappear, and I presume it did. I recollect a case which I saw several years ago which occurred over the forehead. There was a good deal of swelling, which closed the eye on one side. This disappeared within a few days from the beginning of the attack.

DR. E. G. CUTLER: I have had several examples of this affection under my charge. The first occurred in the Out-Patient Department of the Massachusetts Hospital just after Dr. Curtis's paper was read; and after that there were several. I have seen it something like four times in the upper lip, most of the time in women. I remember one case where it occurred last year in a lady who came to my house just before going to a dinner party. Her lip and chin were swollen. She was very much frightened and thought herself unpresentable, but the edema went down in the course of the evening and entirely disappeared. I have seen it in two instances in the eyelids. It was in these cases recurrent several times. Within the past five years I have had sent to me the wives of two doctors who had the disease on the lower limbs, under the fear that they perhaps might suffer from disease of the kidneys. It was recurrent in the first case. It would appear for a few days and then disappear. It came in one leg several times, and then occurred in the other, and evidently it was dependent on some gastro-intestinal disturbance, with a condition not unlike an urticaria. In the other case it occurred only in one leg. I saw it once over the abdominal wall to the right, near the superior spinous process of the ilium, and it evidently had some relation to urticaria. The spot was about the size of the palm of the hand, always appeared in the afternoon toward night, was quite bad when the patient took off the clothes to go to bed, during the night disappeared, and in the morning was not to be seen. I have seen several cases where it occurred in the hand and twice in the tongue. There was brought to my ward in the hospital this summer, a child who had this disease in the tongue, which disappeared after a few days. A simple, ordinary astringent mouth-wash was given. The assistant was much excited at the appearance of the child when it came in, and had all the preparations ready for tracheotomy. The tongue was so much affected that it stood out of the mouth and was very striking-looking. Most of the cases I have seen have been in people who have suffered occasionally or frequently from disturbance of the digestive apparatus, and frequently from urticaria. I do not remember to have had any cases of erythema, which is sometimes noted in cases of this sort. As far as treatment was concerned, nothing in my hands seemed to do much of any good. The most protracted case I have ever seen, occurred in a man who was very strong and otherwise well, and it lasted the greater part of last winter. He consulted several different specialists for small matters, and nobody seemed to do him much good. Finally the disease disappeared without treatment.

DR. F. H. HOOPER: I have seen three cases of primary acute unilateral edema of the larynx that I think would come under this category. In all of these cases the edema came on very suddenly without any discoverable cause, and lasted between two and four days, and went away as rapidly as it came.

The first case was in a delicate woman, twenty-six years of age, whom I saw at the Massachusetts Hospi-

tal in 1881. She had been hanging out clothes on the shed in the morning, and in the evening when eating her supper she experienced great pain on swallowing, and the next day when she came to the hospital I found that she had an edema extending from the lingual surface of the epiglottis on the left side, and involving the aryepiglottic fold and the mucous membrane covering the left arytenoid cartilage, but there was no inflammatory action particularly of the pharynx or of the larynx.

The second case was in one of the ward tenders of the City Hospital. He was about twenty-five or twenty-six years of age, and in his case it disappeared in about two days. I cannot remember the details of that case, because I did not take any record of it.

The third case was in a private patient whom I saw last April. It was interesting from the fact that the man could locate exactly the moment his trouble began. He was twenty-five years of age. He said that at four o'clock Monday afternoon he was eating a chocolate cream in a drug store, and while eating it he experienced intense pain in the larynx, as if part of it had lodged there. Tuesday his throat was a great deal worse. He suffered intense pain on swallowing. I saw him for the first time Wednesday morning about nine o'clock. He was still suffering pain on swallowing. I found that he had great edema of the right side of the larynx; the right aryepiglottic fold and the mucous membrane covering the right arytenoid cartilage. I don't suppose the chocolate cream, of course, had anything to do with his edema. After talking with him regarding the cause of his trouble, he remembered that at lunch, on Monday, he had eaten fried oysters, and had removed two pieces of shell from his mouth. It is possible that a bit of shell wounded the mucous membrane and excited the edema of the larynx. No shell was ever seen, however, and the edema, as in the other cases, disappeared very quickly.

In all of these cases the opposite side of the larynx was normal in appearance.

DR. WATSON: I have seen four cases of this in the lips, two in the lower and two in the upper lip, one in a boy and three in girls. Compression with contractile collodion seemed to work exceedingly well.

DR. C. F. FOLSOM: I had forgotten two cases in my dispensary practice in 1872 or 1873. They were both in the lip and side of the tongue. When the first case presented itself, I did not recognize the affection. I put on four leeches, and to my surprise, on going to see the patient the next morning, the swelling had entirely disappeared, and it never recurred. I could not find in literature any report of similar cases, and when the next came, about six months afterwards, I did nothing in the way of treatment, and sent her to the City Hospital, where she stayed three or four weeks. Whether the leeches had anything to do with the favorable results in the first case, I do not know, but in view of the opinions in regard to the pathology of the trouble I think it possible they may have.

DR. CUTLER: The oldest of the cases I saw was about forty-five years, the youngest a child about five or six.

DR. POST: I must speak of a case I saw early this summer, which corresponds very closely indeed to one or two of the cases Dr. Lovett mentions. It was in the hand, running up on to the wrist, and lasted for four or five days, going down under a bandage over

some cotton. The reason why I speak of it at all is because it occurred in a woman ninety-one years of age.

DR. G. G. SEARS: I am very much interested in Dr. Lovett's report of the cases, particularly in hearing the complete histories of the two he was kind enough to show me. There was no question of rheumatism in those cases, and the peculiar interest seemed to lie in the fact that we could find no cause, which is generally recognized for such a condition.

During my service at the Carney Hospital last year four or five cases, all of the upper lip, presented themselves at the Out-patient Department. All the patients were anemic girls under eleven years of age, and all recovered in a few days without treatment. There seemed to be a close analogy in the milder cases to urticaria. Traumatism and alcohol, which seem to have been more or less prominent factors in the etiology of many of the reported cases, played no part here. Two cases, which I mention as they seem to have been overlooked by Dr. Lovett in his review of the literature, were reported by Joseph, at the German Dermatological Congress, I think a year ago. One occurred in a boy of five, whose indulgent parents allowed him large quantities of Tokay wine, and who had repeated attacks; in the other, a man, every excess in alcohol was followed by edema of the exposed parts, either the face or hands.

DR. GREEN: I had an attack of this affection myself a few years ago in the upper lip and extending into the roof of the mouth. It lasted three days, and disappeared. It frightened me a little for fear it would go into my larynx, but that was spared.

DR. F. MINOT reported a

CASE OF SUDDEN DEATH, PROBABLY FROM EDEMA OF THE GLOTTIS.⁸

DR. HOOOPER: These cases of edema of the glottis always make one very anxious, and ought to be constantly watched. The case Dr. Minot reports, I dare say, was one of general edema of the glottis. It is surprising what an enormous edema of the larynx we can have, and yet, as long as the patient is perfectly quiet, he breathes easily, and no one would suspect any narrowing there. You might look in with the laryngoscope and see no opening at all, and yet the patient breathes perfectly well, but if he gets out of bed and makes any exertion, inspiration sucks the parts together, and he dies in a moment. Dr. Edes reported a case of acute edema of the glottis in an athletic man a few years ago. That man died by getting out of bed and making some little effort. The absence of any difficulty of breathing in these cases is no criterion at all. It is the discomfort in swallowing that should excite our suspicion, and suggests a laryngoscopic examination.

DR. FOLSOM: Is it common in general edema of the larynx to have it so quiet? I had the impression that Dr. Edes's case died from severe dyspnoea.

DR. HOOOPER: I do not think he had dyspnoea before he jumped up.

— An Ohio city physician who attends the patients at police headquarters has asked permission to wear a police cap while on duty. In cases where he has to accompany prisoners to the station on the wagon he is frequently mistaken for the prisoner.

⁸ See page 536 of the Journal.

NEW YORK COUNTY MEDICAL ASSOCIATION.¹

DR. EDWARD VON DÖNHOFF read a paper on

THE MANAGEMENT OF FRACTURED LIMBS.

The solution of many of the mischievous consequences of bad management of fractures, he thought, was to be found in the ignorance of certain radical principles, and, growing out of this, an element of timidity on the part of the medical attendant. One source of trouble was that books on general surgery and even those especially devoted to fractures fail to definitely indicate the proper length of time during which it is necessary to maintain uninterruptedly a fixed apparatus upon a fractured limb. In most textbooks and surgical lectures there was also a failure to enforce that knowledge of detail which was so essential to success. The treatment of a fracture, he said, should begin with a correct understanding of the mechanical history and topography of the injury. In order to secure this, it was in his opinion necessary in the majority of cases — both as a matter of safety and accuracy of adjustment, the most essential initial step to success — to anesthetize the patient. This should at least be done in every instance where muscular resistance to effective manipulations is anticipated or a doubt exists as to the exact line of fracture. In the examination there should be noted the amount of enlargement growing out of infiltration of the surrounding soft parts with serum or blood, the probable amount of fluid — probably blood — lying in immediate contact with the fracture, and the degree and direction of displacement of fragments.

To illustrate his mode of treatment Dr. von Dönhoff described as follows a supposed case of simple comminuted fracture of the elbow: The diagnosis being complete, the limb should be scrupulously cleansed. Begin the first dressing by fixing the replaced fragments with a plaster-of-Paris roller adjusted over suitably arranged batting or other cushioning material in only sufficient quantity to prevent undue pressure. This roller is permitted to harden somewhat before the succeeding ones are applied, as its purpose is to secure the fragments in the position given them by the operator in such a manner as to prevent them slipping during the subsequent manipulations. The limb is now swathed as usual, and the plaster bandage adjusted, beginning at the distal extremity, over the first applied roller, and including the shoulder in a spica. In fractures of the elbow he had for a long time preferred a pose of about 110° because of the muscular equilibrium thus obtained, and the greater usefulness of the limb in this position should the joint become ankylosed. If great restlessness is anticipated at this time, the anesthetic may be prolonged for a few moments, which will suffice for the hardening of the plaster, especially if it be rubbed with powdered alum. When the patient is thoroughly conscious, and the surgeon convinced of his complete comfort, the first dressing may be regarded as properly adjusted.

As soon after this time — ordinarily from two to three days — as the more or less complete recession of the swelling is indicated by the general sense of comfort and the evidences elicited by careful percussion of the plaster casing, the casing should be carefully divided into two equal halves longitudinally, and the upper half carefully lifted off without in the

¹ Stated Meeting, October 20, 1890. Concluded from page 435 of the Journal.

least disturbing the limb. The exposed cotton is then smoothly teased away — the middle line being observed in the process — until the arm is perfectly bared for purposes of inspection. If, as is most likely, the swelling has receded, and the shapeliness of the limb indicates good apposition of the fragments, the removed half of the dressing should be trimmed down and reapplied, being fastened in position with a cheese cloth roller snugly applied.

At the end of two or three days longer, the patient should again be anesthetized, and the dressing carefully removed altogether. Slight passive motion should be made at the elbow, and the shoulder and wrist joints, as also the fingers, should be thoroughly moved. The limb, including the wrist but not the shoulder joint, is then lightly swathed in batting, which is held in position by a few turns of ordinary sewing thread. The whole is then covered with two leather splints previously cut and shaped by measurement. Birch-tanned saddle skirting, which I prefer, is made quite soft by dipping it quickly in very hot water (100° to 170°), and so becomes as adjustable as *papier mache*. The splints are quickly and accurately moulded to the limb, and held in position with turns of thread, to be directly followed by a cheese cloth roller. In a few hours this case will be found to be quite bone-like in hardness and having, of course, the exact shape of the limb. The day following the upper half is lifted off, and slight passive motion is made at the elbow and wrist. Everything progressing favorably, the slight remaining swelling of the limb will decrease visibly day by day, and the edges of the leather may be trimmed accordingly, to preserve a close fit. Each disturbance of the dressing must be followed by its careful readjustment.

On the eighth or tenth day I remove the whole casting, and fix its two halves together at their posterior border, with a series of points of wax-end sutures, while the anterior edges are provided with shoe-lace hooks. Thus a perfect and reliable boot is secured. This leather case is then replaced and laced in position, after the proper passive motion has been practised. During the succeeding four or five days the dressing is regularly removed by the surgeon and readjusted after passive motion, which by this time will be possible to an extent very nearly approximating the normal mobility. The patient may now be instructed to leave off the boot during the daytime, and reapply it only when retiring, in order that the parts may be protected against injury from involuntary motion during sleep. On rising, the patient, after bathing the limb with tepid water and subjecting it to gentle friction with a towel, should be required to make voluntary motion to the limit of his comfort, in imitation of all the normal movements of the arm. During the day he should carry a small round object in the hand of the injured limb, and manipulate it from time to time; and he should also be required to occasionally make complete pronation and supination. At the end of the fourth week the individual whose injury has been treated as above, may be safely dismissed from attendance. He will have been by this time sufficiently educated in the management of his condition, and can now be trusted to keep up the nightly adjustment of the apparatus during the ensuing fortnight. Bathing, massage, motion, etc., to be likewise assiduously practised.

This, said Dr. von Dönhoff, was a typical case ex-

emplifying his practice for the past fifteen or sixteen years, during which time he had seen no failures in the similar or other kinds of fracture managed in this fashion. Moreover, he had induced many other surgeons to practise the method, and some years he had tabulated and reported to the Kentucky State Medical Society a considerable number of cases (165) of fractures, very varied in character, which were taken from the practice of colleagues who contributed their experience with it. In no instance did a bad or at all questionable result follow, though many of the cases were of the gravest and most difficult character. Many were instances of surgical fracture of the MacEwen operation. A number of intra-capsular fractures at the hip were also contained in the list. The average duration of active treatment in all the cases thus recorded was twenty-eight days. In no case was there remaining any deformity, atrophy or vestige of fibrous ankylosis, and in none marked abridgment of voluntary motor capacity.

From an analysis of the supposititious case of elbow fracture, he went on to say, we might formulate rules of practice applicable to the management of every form of simple fracture of the long bones and joints of the upper and lower extremities, and based upon such unvarying physiological reparative phenomena, that they were quite self evident, as well as safe guides. As to the time of beginning passive motion in fractured joints and those necessarily included in the first fixation apparatus, it was only requisite to remember how readily stiffness, and a little later, ankylosis, appearances, develop in temporarily confined joints, to appreciate the necessity of taking advantage of the earliest moment of safety to interfere and interrupt fibrous formations between the articulating surfaces. Though such interferences, fortunately, need be very slight, indeed, neglect at this time would afterwards result in an almost if not quite complete nullification of our best efforts in other respects. His experience, based upon a great number and variety of cases, had perfectly satisfied him that it is safe and best, ordinarily, to leave "fixation apparatus," except during sleep, at the earliest possible moment, that is, about the fourteenth or fifteenth day, at which time the "pin" and "ensheathing" callous, and periosteum have been reformed and the new structures are sufficiently firm to support the part thoroughly against all reasonable chances of displacement. It was of the first importance to effect an accurate and exact adjustment of fragments, as well in fractures of bone as in divisions through the soft parts, in order to secure prompt union of divided structure. In conclusion, he said that if results such as he had narrated were desired in cases of fracture, it was not permissible to overlook or slight the least detail in their management.

DR. JOSEPH D. BRYANT said that many of the views expressed in the paper were certainly unusual and at variance with those of the great mass of surgeons. In making a diagnosis he thought that the first thing we should do was to study very carefully the contour of the corresponding limb. As to the practise of generally resorting to anaesthesia, he could not but take exception to this; for the treatment in this respect advocated by Dr. von Dönhoff seemed to him worse than the disease. In joint cases anaesthetics were sometimes called for, and were resorted to by all surgeons; but for ordinary purposes he deprecated their use as unnecessary and accompanied by more or less danger. As

to the length of time in which treatment was required and as to complications, we had to consider whether there would probably be future ankylosis. The reader, in laying such great emphasis on the necessity of passive motion, seemed to be unmindful of the paper which the late Dr. H. B. Sands published three or four years ago; and it was a well-known fact that, of late, surgeons have disregarded passive motion more and more. Voluntary confinement of a healthy joint certainly would not result in ankylosis.

As to the time a fixation apparatus should be worn, in the majority of fractures the dressing could be abandoned within four weeks, provided, as Dr. von Dönhoff had said, there were no untoward circumstances. But it was just the fear that the patient might make some unusual movement which induced us to be cautious, and in order to avoid possible accidents it was necessary, in his opinion, to keep up the treatment longer. He remembered that when he was an intern at Bellevue Hospital he removed the dressing from a fractured thigh at the end of four weeks, and the consequence was that the next morning he had another fracture to treat; whereas if he had kept the apparatus on for, at least two weeks longer, such an accident could hardly have resulted. He regretted that the text books on surgery did not lay down more definite rules; but this was not so great a fault as would at first appear. It was only the general principles applicable to fractures and their treatment which they could properly set forth, and if they attempted to give dogmatic rules the effect would only be disastrous, since the student or practitioner would be robbed of the necessary prerogative of reasoning in his own cases.

DR. S. T. ARMSTRONG also thought that each case should be judged by itself and according to the special circumstances attending it. The essential point of the paper seemed to him to be the feasibility of diminishing the time during which fixed dressings should be worn in fractures. He thought, however, that in making an examination at the end of two days after the first dressing had been applied there was great danger of interfering with the process of repair. Moreover, if in any case so treated, the result should be unsatisfactory, the patient might, perhaps, claim damages on the ground that such result was due to the fact that the surgeon had unnecessarily disturbed the dressing before firm union had occurred.

DR. VON DÖNHOFF said that he gave the anesthetic not for the purpose of making a diagnosis, but in order to secure passivity of the muscles. In his own practice he had never met with any untoward result in the use of anesthetics, and he believed that with proper care they could be employed almost with impunity. As to Dr. Bryant's case at Bellevue, it seemed to him that, owing possibly to some diathetic influence, or to the fact that the fragments had not remained properly adjusted, there never had been any union.

— A medical college in Jersey City, in which the length of time required to get a degree is three months, and where the professors rarely turn up for lectures, is asking the Supreme Court to grant a mandamus to compel the County Board of Health to register as physicians last year's "students" of the concern.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

THIRD ANNUAL MEETING, held in Atlanta, Ga., November 11, 12 and 13, 1890.

FIRST DAY.—MORNING SESSION.

The Association convened in Concordia Hall, and was called to order by the President, DR. GEORGE J. ENGELMANN, of St. Louis, Mo., at 9.30 a. m.

DR. GLENN delivered an Address of Welcome, the response to which was made by DR. R. B. MAURY, of Memphis, Tenn., who also contributed a paper entitled

HOW SHALL WE TREAT OUR CASES OF PELVIC INFLAMMATION?

The paper gave a comprehensive résumé of the pathology of chronic pelvic inflammation as it has been clearly demonstrated by Bernutz, by Polk, Coe and others, and by the results of abdominal section. This pathology is that of pelvic peritonitis dependent upon tubal disease not cellulitis. The author declared the term chronic cellulitis a misnomer, a pathological condition which existed only in the imagination of the physician, a term which had been productive of pernicious results in practice, and which should no longer be used in connection with non-obstetric pelvic inflammation.

When the pathology rests upon such abundant and positive evidence, the question might be asked, Why re-open a discussion upon it now? Because it is evident from our society proceedings and hospital reports that great confusion exists in the medical mind to-day in regard to it. Dr. Byrne's case, discussed in the New York Obstetrical Society during the present year, was taken as an illustration. In speaking of such cases, the great tendency to relapses in chronic pelvic inflammation was illustrated by two cases in which pus tubes were found five and seven years after attacks of peritonitis, and when it was supposed the patients were entirely restored to health. Upon the subject of treatment the writer admitted, that, by non-surgical therapeutic measures, large intra-peritoneal exudations are often absorbed, and even some tubal and ovarian inflammations entirely disappear, and recovery seems complete. But this is the exception, and by no means the rule. For the radical cure of chronic pelvic inflammation non-surgical treatment fails in a majority of the cases. A great many women suffering to a moderate degree, continue to do so in spite of the best directed non-surgical measures, and perhaps wisely elect not to undergo operation.

As a rule, the only radical and permanent relief is afforded by removal of the diseased appendages. The treatment of pus collections, of course, requires abdominal section.

DR. JOSEPH PRICE, of Philadelphia, followed with a paper on

THE MOTIVE AND METHOD OF PELVIC SURGERY, in which he said pelvic surgery must be considered apart from abdominal surgery. It is distinct from it, both in the nature of the lesions dealt with, in the difficulties it presents, and in the complications and embarrassments to routine technique.

Nowhere as much as in pelvic surgery does the distinction between the general surgeon and the spec-

ialist in pelvic disease stand out so clearly. Pelvic adhesions in appendicitis, for instance, Mr. Treves would deal with by the knife. If this is feasible, why not put the knife to ovarian and tubal abscess, to all intestinal fixation by inflammatory processes and the like? The very suggestion of such method to the mind of the specialist accustomed to deal with all the complexities of pelvic surgery is fraught with evil; and this mere suggestion only makes it clear that general surgeons, in so far as they are entirely wedded to the knife in removing disease, fall short of the demonstrated harmfulness of its application in pelvic work.

Relative to electricity, Dr. Price said that electricians yet talk learnedly of the undetermined place of electricity in the treatment of ovarian cysts; but tars, water and tractors have gone to their long rest. The time must yet come when the claims made for electricity as an universal panacea must be exploded, and its real, limited, and narrow horizon of usefulness be well defined. The pernicious effect of so-called cures of reported complicated cases, adhesions, inflammations, and the like, by men without training, who look only at the ampère-meter while they adjust a clay pad or introduce a galvanic sound, is not to be overestimated. He had repeatedly shown, by exhibited specimens, the fallacy of the claim of exact diagnosis made by these men, and the arguments are irrefutable. He believed that the only position assumed by the electricians that has the slightest foundation in fact, is that electricity will sometimes control hemorrhage and relieve pain. That it cures either is not proven.

In dealing with adhesions, the first point to be sought after is to find a crease or crevice, into which some progress can be made. In separating intestinal adhesions, they should be broken as far from the bowel as possible. The farther away the less liable would they be to bleed, and the absence of hemorrhage is a great comfort in these cases. The strings of adhesions may be dealt with according to their size, it sometimes being best to remove them, at others there is no necessity for this. In doubtful cases their removal is the better surgery. All bowel adhesions should be carefully examined after their separation. By so doing, fecal fistula will often be avoided by the careful placing of an intestinal suture. It hence is apparent that no pelvic surgery should be attempted, until the operator is competent to deal with intestinal wounds, even to resection and anastomosis. Once the adherent mass is removed, the ligature should be applied close up to the cornu uteri. The ligature should not be so heavy as to resist knotting, nor so light as to break easily. The ordinary surgical knot is the safest of all knots with which to tie the pedicle. It constricts more evenly and certainly, and will slip less readily. The leaving of sufficient button is of the greatest importance to prevent slipping of the ligature.

In the treatment of extra-uterine pregnancy his urgent advice is, to operate without delay when the symptoms point to the disease, with the assurance that delay will only complicate matters and sacrifice the life of the mother.

The field of pelvic surgery, said Dr. Price, is not one of experiment, or palliation, that it strives in all cases to remove the offending body in order to conserve the rest of the economy; that its tenets are founded on philosophy and fact, not fiction, and that its worth lies in its proven results. The surgery that plucks out the eye or casts aside the limb, to save the other

eye or limb or life, is greater, better and wiser, than a sentiment that preserves a shell to inclose a ruin.

FIRST DAY.—AFTERNOON SESSION.

DR. W. H. H. COBB, of Goldsboro, N. C., read a paper on
SUPRA-PUBIC CYSTOTOMY IN A CASE OF ENLARGED PROSTATE.

The patient, a farmer, aged forty-nine years, rheumatic diathesis, dated his trouble back to 1881; when he carelessly allowed over-distention of his bladder, and has suffered more or less since from nephritic colic and has passed on different occasions dark, gritty deposits. For the past three years he has suffered much with cystitis in a very aggravated form, with great pain and difficulty in defecation, urine containing much blood, pus and mucus. The patient consulted Dr. Cobb in June last, who suspected vesical calculus, but failed upon examination with sound to detect any stone. A digital examination, however, per rectum, disclosed the right lobe of prostate greatly enlarged, rough, indurated, exceedingly tender and sensitive. After consultation by letter with Hunter McGuire, he decided upon supra-pubic cystotomy as the only hope of permanent relief, which was done after the method of Dr. McGuire on June 23d. At the expiration of two months, he found the prostate perfectly normal with no symptoms of cystitis, and withdrew the plug, allowing the fistula to unite, which it did in about ten days. His patient performs the act of urination and defecation without the slightest trouble, and expressed himself as entirely relieved, and is at present following his usual vocation.

INFLAMMATION IN AND ABOUT THE HEAD OF THE COLON.

DR. L. S. McMURTY, of Louisville, read a paper on this subject. He said the teachings to be found in systematic treatises on surgery and practical medicine upon inflammation and its results in and about the caput coli are not only worthless, but positively misleading. This is true not only as to pathology and treatment, but even as to the anatomy and relations of the cæcum and its appendix.

Inflammatory changes in the veriform appendix are in almost every case the origin and seat of the inflammatory diseases about the caput coli. Inflammation of the cæcum is very rare, yet in a certain proportion of cases cœcitis, with perforation, occurs without involvement of the appendix.

Fecal impaction may be the cause of inflammation about the head of the colon. Pain over the cæcum, with a fecal mass perceptible on pressure often occurs, but rarely, if ever, associated with peritonitis. A few weeks since the speaker saw a case in conjunction with Dr. H. H. Grant, of Louisville, in which a localized peritonitis existed in the right iliac fossa, with a well-defined firm tumor. Abdominal section was done, and instead of appendicitis, they found the disease to be cancer of the caput coli. Irrigation and drainage rescued the patient from the immediate danger begotten by active peritonitis. The patient was a woman of middle age, and the engorged peritonitis presented the symptoms of an acute condition. Malignant disease of the cæcum has not, so far as the writer is aware, been mentioned by writers upon this subject as a probable condition in the diagnosis of deep-seated inflammations of the right iliac fossa.

The decision to operate should be determined more by the grade of the inflammation than by the time it has existed. When a diagnosis has been made, and three days have elapsed without subsidence of pulse and temperature, operation should be done.

The following conclusions were submitted: (1) Inflammation about the *caput coli* is, as a rule, inflammation of the appendix. (2) A certain proportion of cases will recover spontaneously by resolution. With these, recurrence of the disease is common. (3) In the larger proportion the disease will endanger life, and may at any moment assume a condition practically hopeless. (4) Early operative interference involves less danger than delay, and should be resorted to in all cases in which a high grade of inflammation is persistent. (5) The essentials of the operative technique are brief anaesthesia, quick and thorough work, removal of the appendix, irrigation and drainage. The lateral incision is preferable to the median.

FIRST DAY.—EVENING SESSION.

PRESIDENT ENGELMANN delivered an address entitled

THE CAUSES OF ILL HEALTH IN AMERICAN GIRLS AND THE IMPORTANCE OF FEMALE HYGIENE.

He showed that the health of the American girl is threatened and impaired by causes more or less avoidable, as they are due to our methods of life, our methods of training and education; that the physique of this girl, most favorably situated amid auspicious possibilities, is imperfect; her brain overworked, her nerve power exhausted, her function impaired, and reproduction endangered, all by reason of the susceptibility of her peculiar organization, and the increased impressibility of the sensitive system during the years of development, in which it is subjected to the most severe strain.

The remedy is attention to woman's peculiar organization and the cyclical waves of her dominant function, or, in other words, harmonious development and occupation of nerve and muscle; diminished brain-work and nerve stimulation with increased and co-ordinate physical exercise; increased protection and diminished compression of dress; self-knowledge and individual care during periods of heightened susceptibility. Changes are necessary in custom and fashion, in methods of labor and education. A harmonious education of mind and body should be approximated.

DR. ENGELMANN closed with a plea for the self-care of the American girl and her proper physiological instruction by the mother, which, alone, will mitigate or remove the initial cause of many of her ailments. Upon the mother he would impress that the perfect development of the female function, and the maintenance of this function, once developed, in a healthy condition, is essential to the perfect development of the girl and the perfect health of the woman; that self-care, a well-regulated female hygiene, is the foundation of her well-being.

SECOND DAY.—MORNING SESSION.

DR. C. A. L. REED, of Cincinnati, O., read a paper entitled

INDICATIONS FOR OPERATION IN ECTOPIC GESTATION.

The paper starts out with the assumption that the only proper treatment of ectopic gestation is by lapar-

otomy, or, more properly, coliotomy. While the profession has become practically unanimous that this is the proper line of treatment, the indications for operation have been less definitely decided upon. This conviction is forced upon the observer by encountering cases which have been advised against operation until hemorrhage within the pelvis has threatened a fatality, which is but too frequently realized. The most legitimate excuse for this dilatory practice, is to be found in the confusion which has arisen with regard to the supposed uniform causal relationship of ruptured ectopic gestation to pelvic hematocoele.

The treatment of ectopic gestation premises the diagnosis of this condition. This is obviously difficult, and in the majority of instances cannot be arrived at, or, if at all, only presumptively; but, in all these cases, conditions can be found in the pelvis, which if not conclusively of extra-uterine pregnancy, yet constitute conclusive indications for exploratory operation. The presumption of ectopic pregnancy can be arrived at before rupture, chiefly by a history of previous sterility, by a previous amenorrhea followed after a few weeks by irregular hemorrhage, by increased tumefaction to either side or back of the uterus, and by the existence of false decidua within the uterus. The latter fact may be safely determined by the judicious use of the Emmet curette forceps. The diagnosis after rupture is essentially the diagnosis of internal hemorrhage. Time wasted either to determine the cause of that hemorrhage, or to find out if it be primary or secondary, is criminal, the thing to do is to operate. The position has been taken that time should be taken for the patient to rally from the shock. One of the speaker's own cases died simply because he waited twelve hours for reaction—a lesson which taught him the fallacy of the old teaching, and which has since saved lives at his hands. The best way to overcome shock from internal hemorrhage is to stimulate the patient by giving ether, stop the drain by ligating the bleeding vessels and rouse the nervous system by washing out the belly with hot water.

Dr. Reed's conclusions are: (1) The only proper treatment of ectopic gestation is that by abdominal section. (2) The operation should be done in cases before rupture so soon as the condition can be presumptively diagnosed. (3) The operation should be done in cases after rupture so soon as the evidence of internal hemorrhage become apparent. (4) In cases in which the period of viability has already been reached without rupture pregnancy should be allowed to advance to term before operation, but only under the closest possible vigilance. (5) In all cases the appendages from both sides should be removed providing the condition of the patient will justify the extension of the operation.

DR. BEDFORD BROWN, of Alexandria, Va., followed with a paper entitled

THE LOCAL AND GENERAL TREATMENT OF GANGRENOUS WOUNDS AND DISEASES.

Many years ago, previous to the late war, the writer determined to institute a series of experiments to ascertain the capability of local and general treatment of all gangrenous wounds and diseases that came under his care either for their prevention or arrest. The object was to find local agents possessing active properties as stimulants of vital action in the affected parts, also as means of disinfecting and deodorizing

gangrenous sloughs, hastening their final separation and for the establishment of a healthy basis for granulation. In cases coming under his care he found that the old deodorizer failed to accomplish these objects. He then employed a solution (almost saturated) of sulphate of zinc and dilute sulphuric acid as a local application, which seemed to meet all the requirements. The first case in which it was applied was according to the following formula:

R Zinc sulphat.	3j.
Aqua.	Q.J.
Acidi sulph.	3ss. M.

After the free application of hot water at 110°, the solution was applied every three hours on bats of raw cotton. In the course of two days the slough separated rapidly, leaving a perfectly clean, healthy base for granulation. This solution evidently possesses active antiseptic properties. It is an admirable deodorizer; it is clean and cleanses the parts effectually. In cases of great loss of sensation in the parts, weak circulation, reduction of vital action, and depressed vitality, he knows of no agent better calculated to arouse nervous action and stagnant circulation, for as soon as the living basement is exposed it gives rise to intolerable pain. He has used this solution in all forms of gangrenous wounds and diseases, some limited, others extensive and associated with septicemic, with benefit.

Dr. Brown cited the history of several cases of different varieties of gangrenous wounds and diseases treated by various methods.

DR. W. L. ROBINSON, of Danville, Va., read a paper on

THE TREATMENT OF GENERAL SEPTIC PERITONITIS, in which he called attention to those cases which tended, by absence of pain and a seemingly improved condition after chill and fever, to mislead as to the necessity of operating, and instanced two cases of recent date in consultation, in which septic peritonitis and secondary abscess existed in spite of the seemingly favorable condition of the patient. He says that often there is an utter disproportion between the pathological condition and the amount of pain and tenderness, — a condition so often seen in puerperal peritonitis.

He states that traumatic abdominal injuries, appendicitis and pelvic inflammation, are the chief causes of septic peritonitis while, of course, any internal or external influence which produces suppuration, may be the indirect cause.

He agrees with Dr. G. Frank Lydston, of Chicago, that in children, falls, blows, etc., are the causes generally of peritonitis, and that because of their age, attention not being directed to the seat of injury, we often diagnose the disease too late. Dr. Robinson takes the stand that gonorrhœa is a frequent cause of septic peritonitis and the reason why it did not always produce it was, that it did not invariably invade the uterus, and even when it entered the tubes, the adhesions to the ovary rendered it self-limiting.

He holds that section, irrigation and drainage is the treatment, and that where adhesions are extensive, that salines should follow the operation in order that the peristaltic action of the bowel would prevent re-formation. Cases occur which, when seen by the surgeon, are too prostrated to undergo a complete operation and the proper plan is to rapidly do what one can by section, irrigation and drainage. Dr. Robinson instanced a case of recent date in which the patient was

saved when seen only in *extremis*. He urges the surgeon to go prepared to resect, anastomose, etc., as complications may indicate. Where conditions are diagnosed which will most likely terminate in septic peritonitis, such as recurring appendicitis, that preventive measures should be undertaken; and where great tympanites exists, he would adopt Dr. Davis's mode of opening the bowel and flushing it out with hot water.

DR. JOHN D. S. DAVIS, of Birmingham, Ala., contributed a paper entitled

THE CLINICAL HISTORY OF THE EPICYSTIC SURGICAL FISTULA, WITH CASES.

(To be continued.)

Recent Literature.

Essentials of Practice of Pharmacy. Arranged in the Form of Questions and Answers. Prepared especially for Pharmaceutical Students. By LUCIUS E. SAYRE, Ph.G., Professor of Pharmacy and Materia Medica, School of Pharmacy, University of Kansas. Octavo; pages viii, 180. Philadelphia: W. B. Saunders. 1890.

This number of Saunderson's Question-Compends was prepared with the object of assisting the student in holding the instruction he receives in the study of pharmacy, and to open up and map out the subject in a way that is comprehensible and easily followed. The Pharmacopeia is made the central figure of study and is but seldom departed from. The subject is considered under the classification of physics, pharmaceutical processes and manipulations, physical and chemical, pharmacy both practical and theoretical, official preparations, inorganic and organic compounds, dispensing and incompatibilities. The topics are treated in a simple practical manner and the work forms a very useful manual for the object intended.

The Physician's All-Requisite Time-and Labor-Saving Account-Book. Designed by W. A. SEIBERT, M.D. Philadelphia: F. A. Davis, Publisher.

This account-book has the great merit of simplicity. There is space on each page for the accounts of three persons or families for several months, obviating the necessity of rewriting names. It is published in two sizes, for six hundred and twelve hundred accounts.

The Physician's Visiting-List (Lindsay & Blakiston's) for 1891. Philadelphia: Published by P. Blakiston, Son & Co.

This well-known visiting-list is published in four sizes, with space for twenty-five, fifty, seventy-five and one hundred patients per week. Its popularity was well deserved. It is simple and compact, and yet contains all that most practitioners require.

— At the recent meeting of the Tri-State Medical Association a member from Arkansas, speaking of the use of calomel in malaria, said that the prejudice against it in his country was so strong that a shot-gun policy had been adopted, and that any one who gave a dose of calomel was liable to receive a dose of buckshot before he could get away.

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THE MASSACHUSETTS HEALTH REPORT.

The twenty-first report of the State Board of Health of Massachusetts maintains the high standard of the series, and records each year an increased amount of executive work under the comprehensive laws in respect to water-supply, sewerage and inspection of food and drugs.

Extensive chemical and biological investigations of the complex questions affecting water-supplies and disposition of sewage are in progress. Forty-two applications for advice, many requiring much expert labor, were received by the board during the year, relative to sources of water-supply, sewerage and disposal of sewage. Nearly 150 cities and large towns were visited for collecting samples of food and drugs, of which 5,454 were analyzed, and 140 complaints were entered in the courts for violation of the acts. Chemical and biological examinations were made of more than 2,000 samples of water and a large number of specimens of sewage.

Sources of pollution were noted in thirty of the ice-supplies from 189 cities and towns, a few of which had been suspected as being a cause of illness. In the twelve appearing to be most polluted a chemical analysis showed that in freezing, color and salt, and eighty-seven per cent. of other impurities had been removed. The number of bacteria in the ice averaged 138, varying from 0 to 1,246, the latter in snow ice.

Reports from 152 of the 346 cities and towns in the State indicate intermittent fever in 86, as compared with 47 in 1880. Cases were reported from 25 towns in Middlesex County, 17 in Norfolk, 11 in Worcester, 10 in Hampden, 7 in Bristol, 6 in Essex and Hampshire, 4 in Plymouth, 2 in Berkshire, Barnstable and Franklin, 1 in Dukes. Fifty-two report the disease more or less epidemic.

A statistical report on the physique of women in Massachusetts, based upon measurements of 1,546, records a "fairly correct idea of the physical type of the adult young woman of this community," and includes an important discussion of the scheme of Galton's "percentile grades."

Dr. Abbott, the secretary of the board, closes a full and most interesting report on influenza with these conclusions:

(1) The first appearance of the influenza in Massachusetts as an epidemic, in the past season, may be stated to have been on the 19th or 20th of December, 1890, and the place of its first appearance was Boston and its immediate neighborhood.

(2) It increased rapidly in the number of persons attacked, and reached its crisis generally throughout the State in the week ending January 11, 1890, after which date it gradually declined in severity, and had nearly ceased as an epidemic by the 10th of February; so that the duration of the epidemic was about seven weeks. It reached its crisis earlier by several days in Boston than in the smaller cities and the remote parts of the State. Its course was still later in Nantucket, Dukes, and Barnstable Counties.

(3) The ratio of the population attacked was about 40 per cent. — or more exactly, as indicated by the returns, 39 per cent. — or about 850,000 persons of all ages.

(4) People of all ages were attacked, but the ratio of adults was greatest; of old people next, and of children and infants least.

(5) The weight of testimony appears to favor the statement that persons of the male sex were attacked in greater number and with greater severity than females.

(6) The average duration of the attack (acute stage) was from three to five days.

(7) The predominant symptoms were mainly of three general groups, — nervous, catarrhal and enteric, the last being much less common than the others; the special symptoms most observed in the nervous group being extreme depression, pain and weakness; in the catarrhal group, cough, dyspepsia and coryza; and in the enteric group, nausea, vomiting and diarrhoea.

(8) The chief diseases which followed in the train of influenza, and were intimately associated with it, were bronchitis and pneumonia. Phthisis, when already existing in the victim of the attack, was undoubtedly aggravated; and, in many cases, a fatal termination was hastened.

(9) The ratio of persons attacked in industrial and other establishments employing large numbers was about 35.5 per cent., or less than that of the population at large. That of the inmates of public institutions was still less, -- 29 per cent.

(10) The ratio of persons who were obliged to leave their work on account of illness from influenza was about 27 per cent. of the whole number employed.

(11) The average length of their absence from work was five days.

(12) Special occupations do not appear to have had a marked effect in modifying the severity of the epidemic upon operatives in such occupations.

While the atmosphere may constitute one important medium of its communication, human intercourse also suggests itself as an equally important factor.

The board reprints, in this report, their circulars on infectious diseases and adds to the pages on health of towns an admirable sanitary survey of Lawrence.

The general expenses of the board were \$8,164.71; for food and drug inspection \$10,156.27; for water-supply and sewerage \$26,533.97, — a good indication of the public confidence in the value of their work.

MORTALITY VS. IMMORTALITY.

THE Supervising Surgeon-General of the United States Marine Hospital Service in a recent weekly abstract of sanitary reports, presents the following refreshing bit of information in the shape of a quotation from the *Monthly Bulletin of the State Board of Health of Iowa*, for June, 1890.

In 1880 the annual death-rate of Iowa was 16 per 1,000 of the living population. In 1885, with an increase of population of

225,297, the annual death-rate was 4.5 per 1,000 of the population. In 1890, with an estimated population of 2,193,477, an increase of 340,564, the annual death-rate is estimated at a fraction over 4 per 1,000. In 1883 it was only 3.7 per 1,000 of the population.

The records show that fully 70 per cent. of the total deaths in 1880-81-82 were caused by contagious, and, therefore, preventable diseases. It was not till 1883 that the work of the State Board of Health began to realize. The saving of lives, therefore, through the sanitary and protective measures of the State Board is a record to be proud of. It is a record worthy the consideration of every thoughtful mind.

In the original report from which the above statement is quoted, the following data are also presented:

Cities.	Total deaths.	Population.	Death-rates.
Burlington	352	30,000	11.66
Clinton	228	17,000	1.3
Council Bluffs	229	35,000	0.66
Cedar Rapids	273	16,000	1.7
Davenport	438	33,715	12.99
Des Moines	438	58,000	0.75
Dubuque	327	25,000	0.28
Keokuk	142	13,151	12.99
Mt. Pleasant	65	1,500	4.3
Otumwa	169	16,000	0.94

The foregoing statistics are worthy of the genius of a Squeers. The conventional mode of expressing a death-rate is as a ratio per one thousand of the living population. The go-as-you-please method of the Iowa Board of Health can hardly be recommended for general adoption. Mortality is the common lot of all mankind and it is quite plain that there is such a condition as a healthy, or, to use a better term, a normal standard as a mortality-rate for a given community or population. By this is not meant the mortality-rate of selected classes. That of a carefully-managed life insurance company, for example, is usually low, since the aggregate mass of individuals included is made up of selected persons, of the vigorous, healthy period of life; the weak and feeble and diseased, and all below a certain age of life, and all those of old age being rejected.

The very lowest imaginary mortality-rate which Dr. Richardson hoped to attain in his typically sanitary Utopia (the Hygeian city of absolutely perfect conditions), was five per one thousand annually. No one, however, pretends that such a rate has ever been attained in any human population made up of persons of both sexes, of all ages of life. In his census volumes upon the mortality of the United States for 1880, Dr. Billings gives the rate for certain Western States as follows:

Arizona	7.20 per 1,000
Colorado	13.1 " "
Dakota	9.65 "
Minnesota	11.57 "
Montana	8.58 "
Oregon	10.67 "
Wisconsin	12.37 "
Iowa	11.93 "

These rates were estimated from the returns of the enumerators in the census year 1880, and the marked differences which they exhibited were not attributed to sanitation, but to other circumstances and conditions which usually control the mortality-rate in new communities. Arizona, Dakota and Montana, for example, had very low death-rates, since their population was made up mainly of young and vigorous emigrants from

the age of twenty to fifty, a class in which the death-rate is habitually low. The very young and the very old, among whom the death-rate is high, were greatly in the minority. Again, the sex distribution in these new States is very unequal, the ratio of males to females in Arizona, being as seven to three; in Dakota as eight to five, and in Montana as twenty-eight to eleven. With such a very unequal distribution in temperate climates, the birth-rate as well as the death-rate is usually low. In an older and well-settled State like Iowa, however, with a population of about two millions, in which the age-distribution as well as the sex-distribution (males eighty-five to females seventy-eight), are more like those of the older States, an estimated mortality of even 11.9 per one thousand in a census year must be considered as below the actual rate. It is safe to say, that all of the above rates are probably less than the actual rates, since some, if not all, of the States named have not at any time had a thorough system of registration.

The mortality of city populations, large and small, in the United States, may be stated with few exceptions, as from eighteen per thousand upwards; and for rural populations in well-settled districts, as from eleven per thousand and upwards. But when such figures as 3.07 per thousand for a single year for a population of about two millions are quoted, it is time to call for a recount of the ballots, and to inquire what are the sources from which such an estimate is made. It is not strange that such claims are made by a Western State; but when the head of a department which assumes to itself much of the sanitary care of the nation, and is supposed to be an authority in vital statistics, publishes such data seriously as a contribution to the vital statistics of the country, we would respectfully call them in question.

We do not intend to convey the impression that sanitation is useless in its influence upon mortality-rates; far from it. The effect of hygienic measures in lowering the death-rate, especially in large and densely populated cities, by thorough sanitary work, is beyond question, as was shown by the Ninth Report of the Privy Council of England; but when it comes to a reduction of three hundred or four hundred per cent., with a resulting death-rate of 3.07 per thousand, the data are simply reduced to an absurdity, and the field of public hygiene is exchanged for that of Munchausenism. The aim of the sanitarian is, and should be, to prolong life, to prevent disease, and reduce mortality-rates to their lowest terms; but that any community of human beings like that of Iowa has ever been brought by public sanitation so near to the goal of immortality (or zero per thousand) as 3.07, cannot be regarded as within the sphere of human attainment.

PHYSICAL TRAINING IN THE BOSTON PUBLIC SCHOOLS.

THERE is every reason to believe that we shall soon have in the Boston public schools an excellent system of physical training. The school committee has taken

the matter in hand, and a special committee has been hard at work on the subject. To furnish instruction which shall be both intelligent and systematic to a large number of public schools is not an easy task, but the committee has gone to work in the right way in selecting a competent man, and giving him a responsible position and complete control of details.

An office of Director of Physical Training, has been created, with a salary of \$3,000, and the committee has appointed to the position Dr. Edward M. Hartwell, who, for some time, has been connected with a similar department in the Johns Hopkins University, and who, by his education and experience, is exceptionally well-fitted for the work. He will enter upon his duties on the first of January, and after he has outlined his work will be given the requisite number of assistants.

The system adopted for the public schools is essentially the Ling or Swedish system, which, as recently explained by William M. Mowry, chairman on the committee on physical training, possesses the following advantages: It is a system fully elaborated and tested by more than half a century; it is admirably progressive, both as regards the day's order and the needs of the various grades, from the lowest primary to the high school; it is evidently designed to make healthy children and not to train athletes; it is well calculated to aid in discipline, since words of command take the place of music; it thus gives opportunity for the teacher to make suggestions and to give individual instruction; it devotes so much attention to the standing position and carriage of the pupils; the exercises are selected for beneficial ends and not simply because they are pretty; there is great freedom from liability to produce injurious effects; it is cheap, since no apparatus is essential for a time, at least; there is such an infinite variety of exercises that pupils do not tire of them.

SURGICAL TREATMENT OF APPENDICITIS.

At the meeting of the *Société de Chirurgie*, October 15, 1890, Berger reported four cases of appendicitis occurring in his practice; on all laparotomy was performed; three died, one recovered. The cause of the failure in the three first cases was, he thinks, due solely to the fact of the tardiness of the operation; surgical intervention, to be successful, he says, should be early. He inclines to the belief that perityphlitis may sometimes exist apart from appendicitis, and this is in accordance with the conclusions to which Schuchard of Stettin, has arrived as a result of several careful observations; these were nine in number, of perityphlitis without lesion of the appendix, and were reported by him at the last Berlin Congress.

MEDICAL NOTES.

— Surgeon-General Hamilton of the Marine Hospital, in a special report to Secretary Windom on the subject of immigration, takes a decided ground against

the existing immigration law, and makes a strong argument for its modification. The restriction of immigration, he says, is one of the most important questions which could be discussed in Congress; and he almost favors the total prohibition of immigration.

— Surgeon-General Jedediah H. Baxter of the United States Army is suffering from a recent attack of cerebral hemorrhage, followed by hemiplegia. The present indications are that he will hardly recover.

— A physician in Chicago was nearly mobbed by an excited crowd a few days ago for declining to attend an accident in his neighborhood until he was assured that he would be paid. He said that he had already done enough of that kind of work for nothing.

— The Southern Medical Society in Atlanta, has recently elected to honorary membership a boy phenomenon, who though only five years old, has already acquired a knowledge of anatomy which is fully equal to that of most graduates of medicine. He is a regular attendant upon the anatomical lectures at the Southern Medical College, though he is himself, at present, a matriculate of the kindergarten department of a local academy, where we are informed that his long golden curls, rosy cheeks, intelligent blue eyes, and amiable disposition make him a general favorite.

— It has been officially announced that the emperor has conferred the grand cross of the order of the Red Eagle upon Professor Koch. This is the first time that this decoration has been bestowed upon any one who did not possess the preceding classes of the order.

— Baron Nathaniel Rothschild, of Vienna, has been undergoing the famous nerve-cure of Father Kneip at the village of Waerhofen, near Munich. This cure, which lasts twenty-one days, consists in walking about barefooted, taking daily baths in icy cold water, and a diet of milk and vegetables.

— Recent deaths in the profession abroad: Professor Nasabbaum, surgeon in the University of Munich, aged sixty-one years. Dr. Alfred Vogel, Professor of Children's Diseases in the University of Munich, aged sixty-two. In Paris, Gustave Monod, formerly a professor of the Faculty of Medicine, aged eighty-six.

— The jubilee of Professor Virchow will be celebrated in Berlin next year with considerable ceremony. A committee has been formed under the presidency of Professor Waldeyer, and it is proposed to strike a medal in commemoration of the event. Pathologists all over the world will be eager to join their German brethren in congratulating Professor Virchow on attaining his fiftieth year as a scientific worker, and on still retaining to the full the industry and the fire which won for him renown at an early age, and still continue to earn for him ever fresh honors in many fields of scientific activity.

BOSTON AND NEW ENGLAND.

— During the past year the volunteer visitors of the Associated Charities visited 2,037 families: while, in addition to this, the co-operative efforts of agents

and visitors dealt with 1,980 other families. The table of the nativity of the applicants shows that thirty-two per cent. were born in the United States, nearly thirty-seven per cent. in Ireland and twelve per cent. in Canada.

— During the year ending September 30th, the Boston Provident Association aided 1,870 families, of which 1,311 were foreign. A large amount of coal, groceries, clothing and other necessities were distributed.

— The Boston Dispensary is in need of old cotton or linen cloth for surgical uses. Gifts will be sent for may be left at the central office, corner of Bennett and Ash Streets.

— A suit for alleged malpractice has been brought against the estate of a doctor in Ipswich who has been dead for two years. The plaintiff had his arm amputated some years ago, and has lately been obliged to have a re-amputation on account of a painful stump. He now brings a suit for \$20,000 damages, on the ground that the original operation was unskillfully performed.

— The class which graduated from the medical department of Dartmouth College on November 25th was the largest in the history of the institution. Of the twenty-nine students who received the degree of M.D., nine had previously received the degree of A.B. from some accredited college.

NEW YORK.

— At the annual meeting of the Children's Aid Society, the noble charity founded by the late Charles Loring Brace, it was stated that among the more than 100,000 boys, who, during the last thirty-six years have been in the Newsboys' Lodging House, there has been no case of any contagious or "foul-air" disease, and only one death from pneumonia (in 1858) has occurred. The other lodging houses have been almost equally fortunate — a distinct sanitary result of scrupulous cleanliness, ventilation and good food. Among the boys and girls in the lodging houses in the past year, no deaths occurred. There were during the year 12,252 different boys and girls, and 293,767 meals and 220,001 lodgings were supplied; 1,287 were aided with attendance, food and medicine through the Sick Children's Mission; 4,574 enjoyed the benefits of the Summer Home at Bath, Long Island, (averaging about 300 per week), and 4,721 mothers and sick infants were sent to the Health Home at Coney Island.

— At the last meeting of the Medical Society of the County of New York, Dr. Richard Kalish read a paper on "The Resorption of Immature Cataract," in which he claimed to have made a number of cures without operation, by a method devised by him, by using an instillation of a mixture of glycerine and boric acid solution. In the discussion which followed, the paper, Drs. H. D. Noyes, David Webster, and H. Knapp expressed their scepticism of the results stated by Dr. Kalish, which they contended were not substantiated by sufficient evidence. On the same evening

addresses were made by the retiring president, Dr. Alexander Hunter, and the President-elect, Dr. O. B. Douglas.

— The first regular meeting of the Women's Auxiliary of the Hospital Saturday and Sunday Association since its organization, was held November 25th, when eighteen committees of ladies were appointed to carry on the work of the Association among the different branches of retail trade. Through this agency it is expected that at least \$10,000 will be added to the fund collected in the usual way.

— The Society for the Improvement of the Condition of the Poor, has devised a scheme for free baths for the poor, similar to one now in use in Vienna, and which has the approval of the State Charities Aid Association and the County Medical Society. It proposes to erect first a building near Centre Market, with shower baths arranged so that the water will flow off at once. One thousand persons a day can be accommodated, and there will be one section of the building for those who can pay five cents for a bath, and another for those who cannot pay anything. A large part of the funds required for this experimental bath-house has already been contributed.

— On Thanksgiving Day, the twenty-second of his fast, Succi regaled himself with five ounces of Croton water and twenty ounces of mineral water. His weight was 119½ pounds, as against 147½ pounds when he began his long fast. The dynamometer registered 52 and the spirometer 1,575.

Miscellany.

PROFESSOR KOCH'S SUBCUTANEOUS SYRINGE.

THIS syringe consists of a graduated glass cylinder with a conical glass point ground to fit a hollow needle; and a hollow rubber ball, to which is fitted a stop-cock. To fill the syringe it is taken apart, and the cylinder



filled from the upper end, after which the upper half is fitted on. The stop-cock remains closed until the needle is under the skin and everything ready, when the injection is made by squeezing the bulb. The syringe is made by E. Kraus, Kommandanten-Str. 55, Berlin, S.

KOCH'S LYMPH.

ACCORDING to recent dispatches from Berlin, the German government has furnished Koch with a large amount of money to aid in carrying on his investigations. The government expects to take charge of the manufacture of the lymph, and has requested Koch not

to publish the method of preparation, so as to render its imitation impossible. Koch says that if improperly made, serious results might be caused by its injection. There are now seven hundred and fifty patients under treatment. Five have died after the injection of the lymph, one a soldier who was being treated for lupus. The rumor that exorbitant prices were being charged by the few who have access to the lymph, is denied by some of them, but there is no doubt that the supply is very limited, and that for the present, at least, it is absolutely useless to send patients to Berlin. There are already over two thousand doctors in the city, and more on the way, many of them from America. One of the hospitals has already refused the application of four hundred physicians who wished to study the method of treatment. A physician starting now, and in fact, many who are already well on their way, unless they possess exceptional influence, will have no better advantages for investigation than if they stayed at home.

FACIAL ERYSIPelas.

ALTHOUGH it is well known that erysipelas of the face often arises from a point of infection inside of the nose, it very often happens, as Lehrbecher¹ has pointed out that in the treatment of the disease, little or no attention is given to the nasal cavity. It is sometimes wonderful what a mass of thick, bloody, bad-smelling pus can be washed out of the nostril. A nasal douche of three per cent. boracic acid solution should be given every three hours, until the cavity appears to be perfectly sterilized, after which, to prevent drying of the mucous membrane, tampons with boracic acid ointment should be inserted. With these precautions the author has found that the duration and severity of the disease are much diminished. He applies nothing to the skin except cotton-batting or an oil compress.

HYPNAL.

THE following conclusions are given by Frankel,² as the result of a study of the drug, and a trial in a variety of cases in the clinic of Dujardin-Beaumetz. Mono-chloral antipyrin, or hypnal, is a well-defined chemical combination, is less soluble than either chloral or antipyrin, but is broken up into these two substances in a weakly alkaline solution, consequently in the intestines and the blood. It has no smell and almost no taste. It is both a hypnotic and an analgesic, the hypnotic power of the chloral being increased by the action of the antipyrin on the nervous system. It is especially useful in sleeplessness due to pain. The dose is from a half to a third less than chloral. It is not very soluble in cold water, but becomes more so on the addition of a little alcohol, or it may be given in capsules, containing five grains each. It is seldom necessary to give more than fifteen grains. The drug produces its effect in from half an hour to an hour.

At the meeting of the Société de Biologie, Drs. Quinquaud and Schmidt³ stated, as the result of their investigations, that they had found that the mono-chloral antipyrin possessed the advantages over chloral of more

ready administration and more marked hypnotic effects, with less marked action on the circulation. They were not, however, prepared to make any definite statements as to the analgesic properties of this compound.

PYOGENIC MATERIAL WITHIN BACTERIAL CELLS.

CONSIDERING the fact that chemical substances and sterilized bacteria cultures produce suppuration without the growth of organisms, Buchner⁴ made investigations with the Friedlander pneumonia bacillus, and proved the existence within the cells of an albuminoid matter, capable of producing suppuration. The bacterial cell must be broken up before this substance is set free. It is not found in the filtrate of cultures or in the nutrient material. The author concludes that in the tissues suppuration does not occur until some of the bacteria are destroyed. By coloring with methyl violet, this pyogenic material can be made innocuous while inside the bacterial cell.

THE MICRO-ORGANISMS OF STANDING WATER.

DRS. SCALA and Alessi⁵ have completed a series of experiments demonstrating that micro-organisms multiply in standing water, at the expense of the organic matter liberated in the water, this multiplication being but slightly influenced by a temperature a little above zero. They note the fact that micro-organisms diminish in water charged with carbonic acid. After demonstrating that light, movement, pressure, and cold have no influence on these micro-organisms, they experimented directly with carbonic acid, their experiments, resulting in the proof of the lethal action of carbonic acid on the micro-organisms of water. This action they consider analogous to that by which other ferments die in liquids produced by themselves.

A ROAD-HELP FOR THE COUNTRY DOCTOR.

No one suffers more than the country doctor from the lack of system which almost universally prevails in thinly-settled districts in naming roads and describing the location of houses. Most roads have no names, or are simply known by some such title as the Newtown Turnpike, or Mill-Village Road. They may be several miles long, and the better part of a day may be lost in hunting for a house on one of them.

Dr. Samuel O. L. Potter, in the *Occidental Medical Times* for November, describes the "Ten-Block system," recently devised by Mr. A. L. Bancroft to solve the question in a county of California. Some such system could, with very little modification, be made applicable to any part of the country.

According to Mr. Bancroft's "Ten-Block System," every road is divided into blocks of ten to the mile; each block, therefore, being 528 feet, or 176 yards, or 8 chains, in length of road frontage. Two house-

¹ Münchener medicin. Wochenschrift, No. 37, 1890.

² Bull. Gen. de Therap., September 30, 1890.

³ Therapeutic Gazette, September 15, 1890.

⁴ Berlin Klin. Wochenschrift, No. 36, 1890, and Centralblatt für Chirurg., No. 43, 1890.

⁵ Translated for the Marine Hospital Bureau from La Rivista Internazionale d'Igiene, August, 1890.

numbers are assigned to each block, one on each side of the road. Every house in a block is given the number of that block; the first one having the number only, the others being distinguished by the letters of the alphabet in addition, as 96, 96a, 96b, 96c, etc. The numbers thus arranged indicate the distance of the house from the beginning of the road. As there are two numbers to each block, and ten blocks to the mile, to get the distance in miles, the number of the house is divided by 2 and again by 10; thus, 96 divided by 2 gives 48, and this divided by 10 gives 4.8 miles, as the distance of the house No. 96 from the beginning of the road.

With such a system, all that would be necessary, to find at a glance the exact situation of any house, would be a small hand-book, with or without a map, giving the point of beginning of each road, either from a town, or from a number on some other road, and the numbers at the intersections of roads.

TREATMENT OF GONORRHEA.

THE following methods of treatment of gonorrhœa are collected from the *Deutsche Medizinal Zeitung*, Nos. 83 and 85, 1890.

Friedheim¹ made a careful investigation of the effects of different injections in the dermatological clinic at Breslau. Of mercurial agents the best is hydrargyri salicylate 1-270. The common astringents, zinc and lead salts, tannin and subnitrate of bismuth, have no antiseptic properties, and should not be used during the acute stage of the disease. Boracic acid, antipyrine, resorcin, salicylate of sodium, often influence the inflammation favorably, but are useless as germicides. He uses in the first stages a weak solution of nitrate of silver, about one to three thousand, four to six times a day, later, some milder agent.

Diday uses an injection of nitrate of silver solution, 1-20, and allows it to remain in the urethra from fifteen seconds to two minutes, according to the amount of pain. Picard believes that nitrate of silver will abort a gonorrhœa, and is harmless if given before pus appears; after that it may do harm.

O'Brien² uses injections of sea-water seven or eight times a day in the acute stage.

An injection given by Impamplimenti, consists of a one per cent. solution of creosote in an infusion of camomile, with a little boracic acid added.

Pyoktanin has been used by several observers with good results.

The ointment-carrying sound of Unna is recommended by several authors for chronic gonorrhœa. Szadek uses an ointment containing nitrate of silver one per cent., and balsam of Peru two per cent. Sperling and Bender nitrate of silver one per cent. in lanolin. The sound remains at first three, later fifteen minutes in the urethra. For the second stage Lewis uses an ointment with lanolin as a base, and a non-irritating antiseptic, such as resorcin, four per cent.

Allen³ calls attention to the use of the endoscope, through which a cotton-stick may be used, as a method of application to the urethral mucous membrane.

Internally, Lane⁴ obtained good results in sixty

per cent. of his cases in from two to seven days, with salol, in doses of from five to fifteen grains, three times a day. In chronic cases injections also must be employed. Dreyfous uses salol at the same time with the balsamic remedies.

Bird has obtained good results by the internal administration of calomel.

Stern⁵ recommends a thorough washing of the body in the neighborhood of the genitals, and the patient's clothes, with a one to two hundred solution of corrosive sublimate, to prevent an auto-inoculation, which he considers a common cause of recurrence of gonorrhœal symptoms, and of so-called chronic gonorrhœa.

Correspondence.

[From a Special Correspondent.]

LETTER FROM ITALY.

TURIN, October, 1890.

SOME ITALIAN ASYLUMS.

MR. EDITOR:—Any one who is at all acquainted with recent Italian medical literature, and with the many journals of nervous and mental disease published in Italy, is aware of the large amount of admirable work done in the field of psychiatry, experimental psychology and neuro-pathology by the Italian alienists and neurologists, but I must own that I was surprised to find their asylums so complete in all the requisites, not only for the comfort and care of the insane, but also for scientific study and experimental research in the field of neurology. The palatial asylums in this country, on which we pride ourselves, afford no such baths and douches for the administration of every variety of balneotherapy as are seen in all the asylums in Italy; and the space allotted, even in the smaller city asylums, to the pathological laboratory, where every facility for experimental and pathological work is given, is superior to that found even in many medical schools in this country.

One of the newest and finest asylums in Italy is that just outside the walls of the little town of Imola, half-way between Ravenna and Bologna. The medical director is Dr. Giuseppe Seppilli, who, although still a young man, is well-known from many important contributions to neurological literature, among them his joint labor with Luciani in the field of cerebral localization, and his admirable monograph on cerebral tumors in the great Italian cyclopaedia of nervous diseases — "Il Sistema Nervoso Centrale" — now in course of publication. There are in Imola two asylums, one for acute and curable cases, with about six hundred patients; and an asylum for incurables, with about four hundred patients, a little farther away on the other side of the town. The former, which I visited, was built some years ago from plans drawn up by the present business director — the asylum having two directors, medical and business, which, in this instance at least, seems to cause no friction. It consists of a group of independent buildings, arranged about a square, and connected by long porticos open on one side to the weather. Several courtyards give opportunity for out-door exercise and recreation for the different classes of patients, which can thus be kept separate. The classification employed is substantially that of Esquiro; separate buildings affording wards for the quiet, the demented, the epileptic and paralytic, the semi-agitated, the agitated, and the furious of each sex. In addition there is another building used as an infirmary, and, of course, the various buildings for the administrative department. The wards were large, with abundance of light and air. Heat — a problem less important than with us — is supplied, when necessary, by stoves. The patients, as a rule, sleep in dormitories, supplied with the regulation

¹ Arch. für Derm. und Syph., April, 1889.

² British Medical Journal, No. 1599, 1889.

³ Boston Medical and Surgical Journal, August 7, 1890.

⁴ The Lancet, March 12, 1890.

⁵ Internat. Chl. f. d. Physiol. v. Path. d. Hand. u. Sex. Bd., Heft 7.

hospital iron bed, with the wire-woven mattress, which seems to find as much favor in Italy as with us. "No restraint" is accepted only with modifications. Dr. Seppilli holds that absolute "no restraint" by mechanical means often means chemical restraint by hypnotics, and that a camisole is frequently less injurious than large doses of morphine. The amount of actual restraint, however, was slight, and consisted only in the use of the camisole or confinement in bed or in a separate room. One feature of the single rooms for excited patients which I saw in several asylums, notably in Bologna, struck me as possessing various advantages, especially in a mild climate. The rooms opened on one side on a corridor, and were closed by ordinary doors provided with the "Judas" for observation of the inmates. On the other side they opened on a court-yard, separate from any of the airing courts, by a wide door, which could be closed at will by a grating, by glass, or by heavy wooden shutters, thus providing for the admission of light and air, either combined or separately. In addition to the dormitories, there are, of course, day-rooms, rooms for reading, billiards, etc., where the patients can have facilities for such recreation and work as they are able to indulge in. The kitchen and store-rooms gave proof that the diet afforded was excellent, and the vineyards had afforded the patients a good supply of grapes. The bath-rooms, as is the custom, were fitted with the ordinary tubs, and also with every variety of douches, similar to those of La Salpêtrière. The administration building contained several rooms, supplied with all facilities for pathological and experimental work, and a reading-room containing files of most of the leading neurological journals.

A little farther from Bologna, in the opposite direction from Imola, lies the town of Reggio, in Emilia. Some two miles to the south of it, straight out on the old Emilian way, is the asylum of Reggio, founded, in 1536, as a refuge for the sick, but since 1822 used as an asylum for the insane. The director is Professor Tamburini, president of the Società Freniatrica Italiana last year, and the editor of the *Rivista Sperimentale di Frenatria*, one of the leading Italian alienists, who is soon, I understand, to go to Florence to take charge of the new asylum just opened there. The plan of this asylum is entirely different from that of Imola, the colony system prevailing, the buildings being scattered about over a large farm, which supplies the asylum with its products, and gives an opportunity for work for the patients. Lack of time prevented a visit to the more distant buildings, but I had an opportunity to see the administrative department and some of the female wards. At the asylum is published the *Rivista*, so in the administration building is a large room devoted to the editorial department of the journal and containing the files of its exchanges. Beyond it are several large and well-lighted rooms for the pathological department, under the care of Dr. Vassale, where, not only post-mortem researches are conducted, but experimental research is carried on. I examined various interesting specimens of spinal cords, one case of syringo-myelia, and several interesting specimens showing the changes in pellagra, mentioned in my last letter, and had an opportunity to observe the convulsions in a dog who had been deprived of his thyroid. In another room were various instruments for the examination of patients, among them the apparatus for testing the time reactions devised by the lamented Buccola, a former assistant here, whose early death removed one of the most brilliant workers in the field of psychology. The laundry was supplied with all modern requirements, rotary steam wringers, drying-rooms, and washing machines; the kitchen and larder gave evidence that the diet of the patients was abundant and well-cooked; and the *cantina*, with its long vault filled with hogheads of wine for the use of the patients, was an unusual addition to one accustomed to American ideas.

The sight of an interesting case of hysterical somnolence led me to inquire as to the present opinion in Italy in regard to hypnotism, especially as the work done by Tamburini and Seppilli on the subject has been thoroughly scientific and exhaustive, and must outweigh much of the

careless and fallacious observations of certain enthusiasts. As a therapeutic measure I found that it was held in slight esteem. Its applicability in insanity was, of course, regarded as *nil*, but the physicians at Reggio had observed that even in hysteria, although hypnotism would sometimes remove the particular hysterical symptom, paralysis, contracture or anesthesia, it not infrequently induced chronic mental disturbances which proved permanent. In Turin, later, I saw in the asylum a medical student, previously well, suffering from hystero-epilepsy brought on by repeated hypnotizing.

The asylums at Reggio and Imola are the asylums for the provinces in which they are situated, and are in part supported by the government. The average cost per patient is from one and a half to two francs a day. A portion of the patients, however, pay board; at Reggio, for instance, there are three classes of patients, the classification being based upon the amount paid, and the cost of maintenance being, of course, somewhat greater for the first class than for the second; the first class having larger rooms, by themselves, with better furniture and surroundings, while the third class, when the cases are suitable, sleep in dormitories. At Reggio the men who are able assist in the farm work, while the women are employed in sewing, knitting, weaving, etc. I saw several of them at work on the old-fashioned hand-looms, weaving cloth for garments for the patients.

Of the city asylums, I visited those of Bologna and Turin. The former, under the charge of Professor Roncato of the University, is in an old sixteenth-century convent, just within the city wall, and commanding a beautiful view of the hills and the church of Madonna di San Luca; I have already spoken of the arrangement of the isolated rooms, but otherwise there is nothing differing materially from other asylums. At Turin the arrangement of the epileptic wards was of some interest. The furniture in the day-rooms was carefully padded, to prevent injury to the patients in falling, and the sides of the beds were made of woven wire, like the mattresses, to prevent injury should the patient have a seizure in bed. I have already spoken of the study of the muscular strength in pellagra now in progress there, and I had the opportunity of seeing one or two cases of pellagraous insanity. In all the asylums I found complete equipment, thorough neatness, excellent care, and a zeal in scientific work which has added greatly to the world's knowledge, and which has shown that Italy is fully abreast of other countries in the domain of medical science.

P. C. K.

THE CLAIM THAT THE MERIT OF INTRODUCING ETHER BELONGS TO THE LATE DR. HENRY J. BIGELOW.

BOSTON, November 29, 1890.

MR. EDITOR:—When a distinguished man dies it is but natural that many things should be said in his praise which will not bear too rigid an examination, and it shows both good feeling and good taste for those who dissent to hold their peace. Nevertheless, if claims are made for the departed at the expense of others no longer here, it is not only the right, but the duty, of their descendants to see that justice is done.

At the recent meeting of the Society for Medical Improvement held in honor of the late Dr. Henry J. Bigelow, and in separate articles which appear in the last number of the JOURNAL, the claim is repeatedly made, more or less outspokenly, and there is a manifest intention to give the impression, that Dr. Bigelow was the surgeon who introduced Morton's discovery of ether. The speakers and writers were, for the most part, the particular friends of Dr. Bigelow, and it is but right and proper that they should manifest the gratitude which many of them owed him, but this must not be done to the prejudice of others. It is stated that Dr. Bigelow aided and abetted Morton in his experiments with ether inhalation in a way to lead one to infer that by so doing he had a share in the discovery, but the fact is that

this was after the successful public trial. Morton brought his discovery to Dr. John C. Warren, then senior surgeon of the hospital, as Wells had done before him. Dr. Bigelow himself wrote in his "History of the Discovery of Anesthesia": "Dr. Warren was the principal New England surgeon of the day and it was the obvious thing to do."

Great stress is laid on the fact that Dr. Bigelow was the first to announce to the world the discovery of modern anesthesia. Let us look at the circumstances. The first surgical operation under ether was performed at the hospital by Dr. Warren on October 16, 1846, and the second on the next day by Dr. Hayward at Dr. Warren's invitation. Each of these gentlemen gave Dr. Morton a certificate a day or two later to the effect that they had operated successfully with his invention. Then came a pause, owing to the natural aversion of the surgeons to the use of a secret remedy of unknown composition which they were not allowed to administer themselves. Matters were adjusted about November 6th. Dr. Bigelow, then a young man of twenty-seven, recently appointed to the hospital, announced the discovery before the Academy of Arts and Sciences on November 3d. Let it be noted that, so far, there had been but two operations at the hospital, neither a capital one, and none in private practice (Dr. J. Mason Warren performed the first successful one on November 12th); that with neither of these Dr. Bigelow was concerned; and that besides these he had seen only some dental operations by Dr. Morton. The only report of this paper in the Proceedings of the Academy is the following: "Dr. Henry J. Bigelow gave some account of a new process of inhalation employed by Dr. Morton, of Boston, to produce insensibility to pain during the performance of operations by the dentist and the surgeon."

The paper, enlarged by the addition of new cases, *none of them Dr. Bigelow's*, was read before the Society for Medical Improvement, November 9th, and published in this JOURNAL November 18th. On December 3d Dr. Warren published in this JOURNAL a sober, judicial report of what had been done. This may properly be called the first authoritative statement of the subject, after the certificates.

Of the many astonishing assertions made at the late meeting of the Improvement Society, the most so is that by Dr. R. M. Hodges, who, after alluding to "timidity or jealousy" on the part of Dr. Bigelow's seniors, declares that but for him "the primary honor of introducing the great discovery would probably have been diverted from the Massachusetts General Hospital, and from the city of Boston to some more progressive institution and a more enlightened community." It is rather late, forty-four years after the event, to bring such a charge; but if the well-known account of the first operation is not enough, a sufficient answer is at hand in the remarks by Dr. Oliver Wendell Holmes, before the Suffolk District Medical Society, on the occasion of the death of Dr. Warren in 1856: "He had reached the age when men have long ceased to be called upon for military duty; when those who have labored during their days of strength are expected to repose; and when the mind is thought to have lost its aptitude for innovating knowledge, and to live on its accumulated stores. Yet nothing could surpass the eagerness with which he watched and assisted in the development of the newly discovered powers of etherization. It is much for any name to be associated with the triumphs of that beneficent discovery; but when we remember the reproach cast upon Harvey's contemporaries, that none of them past middle age would accept his new doctrine of the circulation, we confess it to have been a noble sight when an old man was found among the foremost to proclaim the great fact — strangely unwelcome, as well as improbable, to some who should have been foremost to accept it — that pain was no longer the master, but the servant of the body." A year after the discovery of ether Dr. Warren published his book on "Etherization," giving as one of his reasons for so doing, "the slow progress of the practice of etherization in this country, beyond the vicinity of its first introduction, compared with its rapid extension on the other side of the Atlantic."

Let me say most sincerely, in conclusion, that nothing is further from my purpose than to disparage the services which Dr. Bigelow rendered to the cause of anesthesia by ether, both in its earlier and its later days. I well remember the help he gave me more than once in this matter when I was one of the editors of this JOURNAL. What I protest against is the claim that he was practically the only surgeon who has a right to the remembrance of posterity for the introduction of ether. This, I believe, is unjust to others, indeed to several, but above all to Dr. John C. Warren.

Dr. Bigelow died laden with well-won honors. He needs no laurels not his own. Very truly yours,

THOMAS DWIGHT, M.D.

DR. BIGELOW AND THE INTRODUCTION OF ETHER.

BOSTON, December 3, 1890.

MR. EDITOR: — In October, 1846, it was the fortune and great privilege of the writer, being then a student of the Harvard Medical College, to witness, at the Massachusetts General Hospital, the first capital operation ever performed under the influence of sulphuric ether, which was the greatest epoch in the science of medicine of all time.

Among the surgeons and students then present, I can well remember Dr. Morton, who administered the ether, and Dr. Charles T. Jackson, both of whom claimed the discovery. Also, Dr. John C. Warren, Dr. George Hayward, who performed the operation, Dr. Townsend, Dr. Cabot, and Dr. Henry J. Bigelow, and three or four students that I can call to mind, all of whom, surgeons and students, are now dead. Doubtless others are now living who were present, and I should be glad to know who they are.

Of all persons present, the form and face of the late Dr. Henry J. Bigelow, who, at twenty-eight years of age, had just returned from several years' residence in Paris, is fixed most strongly in my memory. He rivalled in beauty the Apollo, whose statue was always present in the old Amphitheatre under the dome. The operation was amputation at the thigh, for long-continued disease of the knee-joint. The recovery was unusually rapid, allaying the fears of some, then expressed, that so powerful an agent might have an unfavorable influence on recovery. It was then and there demonstrated that the most painful operation in surgery could be performed while the patient was in a deep and unconscious sleep.

Dr. Henry J. Bigelow probably did more than any other to make known to the world this great discovery which was to be tidings of great joy to all people.

The recent eulogies of the great surgeon and broad-minded genius, who did so much for the science of medicine and surgery and for the world, are eminently just, and touch a responsive chord in the breast of every one who knew him.

For near fifty years I have known him professionally and personally, always with admiration and gratitude, and feel his death as that of an old comrade in the army, whose gallantry, generalship and faithful service deserve immortality.

Very truly yours, PETER PINEO, M.D.

THE STUDY OF MUSHROOMS.

BOSTON, November 27, 1890.

MR. EDITOR: — An article on the study of Mushrooms published by you, under date of October 2d, has been brought to my notice. Had there been no reference to myself in its text, I should not have considered it my duty, as I do now, to declare that it is strangely incomplete. The only article of mine mentioned therein is the first and consequently the most inferior I have ever published. I therefore ask you to print the following references to later

and far more elaborate essays as reported on page 22 of the "Bibliography of North American Fungi," issued by the library of Harvard University, February, 1887.

Empoisonnement par les Champignons. Moniteur Scientifique, Paris, 1879.
Mushroom Toadstool Poisoning. [Copied from above.] Philadelphia, September 20, 1879. Medical and Surgical Reporter, D. G. Brinton, M.D.
Three Articles in Boston Medical and Surgical Journal of these dates, namely, August 28, 1879, November 6, 1879, September 20, 1883.
Annual Cyclopaedia. D. Appleton & Co. Vol. XXVI, 1886, page 540.

Dr. Brinton's numbers of the *Reporter* of December 12, and 19, 1885, contain an article by Charles McElvaine possessing great interest to medical men, and singularly confirmatory — by the detailed case there reported — of that which he had copied from the *Moniteur* six years previous.

My article written for "Appleton's" is couched in popular language, and in the opinion of those competent to judge, has been pronounced the most valuable ever published on the subject of esculent and poisonous fungi. It cannot be that the contributor to your columns was ignorant of the above references, as he was not only furnished with copies of them by me a year or two ago, but further, he has more recently been loaned two quarto volumes of correspondence extending back for fourteen years, from which

and my researches in the forests, my conclusions have been drawn.

Mr. W. G. Smith's work will be of still greater value, if in his new edition he should recognize the progress which has been made in the segregation of the Amanita family from other hurtful fungi. As now printed, his book is very far behind the two French works, whose titles I annex.

Les Champignons, par F. S. Cordier. Paris, J. Rothschild, 1876.
Des Champignons, par E. Boudier. Paris, J. B. Ballière et Fils, 1886.

The last-named is the Orfila Prize Essay, the most valuable contribution ever issued on the subject of which it treats; the work of Cordier is also far more valuable — providing a student is thoroughly acquainted with its idiom — than any work published in our language, and it was so noticed by me in the press at the time of its publication.

Your contributor has been kind enough to mention my work issued for popular instruction by L. Prang & Co., but critical enough to find fault with its nomenclature. If he had carefully studied and collated the various authorities — as I did years ago — he would agree with me that a uniform system of nomenclature is a desideratum, not yet attained.

Yours very truly,
 JULIUS A. PALMER, JR.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 22, 1890.

CITIES.	ESTIMATED POPULATION FOR 1890.	REPORTED DEATHS IN EACH.	DEATHS UNDER FIVE YEARS.	PERCENTAGE OF DEATHS FROM				
				INFECTIOUS DISEASES.	ACUTE LUNG DISEASES.	DIPHTHERIA AND CROUP.	DIARRHOEAL DISEASES.	TYPHOID FEVER.
New York	1,622,237	853	204	12.07	10.89	5.05	1.36	1.19
Chicago	1,100,000	357	129	11.92	14.28	7.84	1.46	4.45
Philadelphia	1,064,307	329	121	13.23	8.91	5.94	3.24	1.08
Brooklyn	500,497	333	120	18.90	17.40	9.30	.80	3.60
St. Louis	550,000	141	38	15.62	6.39	4.97	2.84	5.68
Baltimore	500,343	168	54	13.20	10.40	7.20	—	3.00
Boston	446,507	171	43	5.80	21.46	2.90	—	1.16
Cincinnati	325,000	101	40	18.92	5.94	13.86	—	4.95
New Orleans	260,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	87	24	14.28	13.09	7.14	1.19	4.76
Nashville	68,513	29	13	13.80	20.70	—	3.45	6.90
Charleston	60,145	34	15	8.82	5.88	—	5.88	2.94
Portland	42,000	7	0	—	29.56	—	—	—
Worcester	48,536	21	6	9.52	28.56	4.76	—	—
Lowell	77,603	31	5	38.76	9.69	—	6.46	29.07
Fall River	74,401	21	7	9.52	19.04	4.76	—	4.76
Cambridge	62,837	17	4	17.64	11.76	—	5.88	—
Lynn	55,684	15	4	20.00	13.33	12.33	—	6.66
Lawrence	44,559	23	7	17.40	21.75	—	4.35	13.05
Springfield	44,164	11	1	9.09	18.18	—	—	—
New Bedford	40,705	11	4	9.09	9.09	9.09	—	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	8	1	25.00	12.50	—	—	12.50
Chelsea	27,850	12	2	—	12.50	—	—	—
Haverhill	27,322	2	0	—	—	—	—	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	3	0	—	33.33	—	—	—
Newton	24,375	1	0	—	—	—	—	—
Malden	22,484	5	1	40.00	20.00	20.00	—	20.00
Fitchburg	21,007	2	1	—	—	—	—	—
Gloucester	21,263	6	2	33.33	—	16.66	—	—
Waltham	18,522	8	1	—	37.50	—	—	—
Pittsfield	17,282	3	1	—	33.33	—	—	—
Quincy	16,711	4	2	25.00	—	—	—	25.00
Northampton	14,961	—	—	—	—	—	—	—
Newburyport	13,914	6	2	50.00	—	50.00	—	—
Brookline	12,076	—	—	—	—	—	—	—

Deaths reported 2,580; under five years of age 852; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 357, acute lung diseases 379, consumption 296, diphtheria and croup 170, typhoid fever 63, diarrhoeal diseases 39, scarlet fever 31, whooping-cough 23, malarial fever 12, cerebro-spinal meningitis 7, measles 5, puerperal fever 3.

From scarlet fever, New York 10, Philadelphia 9, Brooklyn 5,

Chicago 4, St. Louis, Baltimore and Lowell 1 each. From whooping-cough, New York 7, Chicago and Brooklyn 4 each, Cambridge 2, St. Louis, Baltimore, Boston, Nashville, Worcester and Salem 1 each. From malarial fever, Brooklyn 7, Baltimore 3, Philadelphia 2. From cerebro-spinal meningitis, New York 3, Chicago, Brooklyn, Washington and Gloucester 1 each. From measles, Chicago 4, Brooklyn 1. From puerperal fever, Boston 2, St. Louis 1.

The meteorological record for the week ending Nov. 15, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall. Duration, Hrs. & Min. Amount in Inches.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	
Saturday, Nov. 15, 1890,	Daily Mean.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.
Sunday... 9	30.18	51.0	57.0	58.0	75	94	84.0	S.E.	S.W.	13	18	O.
Monday... 10	30.15	50.0	54.0	52.0	74	95	84.0	N.	N.W.	13	12	O.
Tuesday... 11	30.25	55.0	58.0	52.0	81	100	91.0	N.	N.W.	6	12	O.
Wednesday... 12	30.29	56.0	59.0	53.0	100	100	100.0	N.W.	N.W.	6	9	R.
Thursday... 13	30.13	41.0	53.0	30.0	85	68	76.0	W.	S.W.	6	6	C.
Friday... 14	30.15	49.0	58.0	39.0	77	66	71.0	S.W.	W.	10	10	C.
Saturday, 15	30.25	41.0	53.0	50.0	88	97	88.0	N.W.	S.	12	—	O.
Mean for Week.	30.22	51.0	56.0			84.0						8.00 P. M.
												0.28

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

The meteorological record for the week ending Nov. 22, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall. Duration, Hrs. & Min. Amount in Inches.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	
Saturday, Nov. 22, 1890,	Daily Mean.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.
Sunday... 16	30.31	43.0	50.0	43.0	77	74	75.0	N.W.	S.	19	7	C.
Monday... 17	29.85	46.0	53.0	36.0	86	100	100.0	S.W.	N.	14	6	O.
Tuesday... 18	29.63	48.0	52.0	44.0	87	67	67.0	N.W.	N.W.	24	14	C.
Wednesday... 19	29.68	45.0	51.0	39.0	79	78	78.0	S.W.	S.W.	12	14	O.
Thursday... 20	29.74	34.0	39.0	30.0	68	74	71.0	W.	N.W.	14	12	C.
Friday... 21	30.04	37.0	45.0	30.0	65	44	54.0	W.	W.	13	12	F.
Saturday, 22	29.84	42.0	49.0	35.0	70	72	71.0	W.	W.	12	14	O.
Mean for Week.	29.87	49.0	57.0			73.0						8.00 P. M.
												0.71

*O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 22, 1890, TO NOVEMBER 28, 1890.

By direction of the Secretary of War, Captain CHARLES B. EWING, assistant surgeon, in addition to his present duties, is assigned to duty as examiner of recruits at St. Louis, Mo. S. O. 215, Part I, Headquarters of the Army, A. G. O., November 28, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 29, 1890.

M. H. CRAWFORD, passed assistant surgeon, ordered to the Recreying-ship "Independence."

E. H. MARSTELLER, passed assistant surgeon, ordered to the U. S. S. "Petrel."

FRANCIS S. NASH, passed assistant surgeon, resigned from the U. S. NAVY, to take effect November 23, 1890.

F. J. B. CORDEIRO, passed assistant surgeon, granted extension of leave for four months, with permission to leave the United States.

PHILIP LANSDALE (retired), medical director, granted one year's leave, with permission to leave the United States.

ADRIAN RICHARD ALFRED, commissioned an assistant surgeon in the United States Navy from November 24, 1890.

and Life Insurance," and Dr. J. B. Mattison, of Brooklyn, N. Y., on "Opium Addiction and its Relation to Life Insurance." Other leading physicians will participate in the discussion. The medical public are cordially invited.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, December 8, 1890, at the Medical Library, 19 Boylston Place, at 8 o'clock P. M.

Papers: Dr. J. Homans, "The Report of Two Cases of Pelvic Hematocele Treated by Incision per Vaginam"; Dr. M. H. Richardson, "Laparotomy for Cyst of the Pancreas."

Election of new members.

G. G. SEARS, M.D., *Secretary.*

AMERICAN PUBLIC HEALTH ASSOCIATION.—The eighteenth annual meeting will be held at Charleston, S. C., on December 16, 17, 18 and 19, 1890. Papers of great value and importance have been promised. Blank applications for membership may be had by addressing the Secretary, Dr. Irving A. Watson, Concord, N. H.; also any information relative to the Association will be cheerfully given.

CORRECTION.

In the JOURNAL of September 18th, page 282, in the article on the "Use of Skin from Puppies in Skin Grafting," the name of Mr. Alexander Miles was spelt Milro, the error having been copied from the *Annals of Surgery*.

BOOKS AND PAMPHLETS RECEIVED.

The Annual Report of the Health of the Imperial (Japanese) Navy for 1889.

Differentiation in Rheumatic Diseases (so-called). By Hugh Lane, L.R.C.P., etc. London. Reprint. 1890.

INEBRIETY AND LIFE INSURANCE.

The American Association for the Study and Cure of Inebriety will hold the first of a series of monthly meetings, at the Hall of the New York Academy of Medicine, on 43rd Street, December 10th, at 8 P. M.

The subject of the evening will be presented by papers from Dr. T. D. Crothers, of Hartford, Conn., on "Alcoholic Inebriety

Original Articles.

APPENDICITIS.¹

BY GEORGE W. GAY, M.D.,
Surgeon to the Boston City Hospital.

A SOMEWHAT extensive experience in laparotomy for appendicitis and other forms of local peritoneal inflammation would lead me to make three general divisions of the cases, as regards their clinical features.

The first class would include the violent cases, in which the symptoms are alarming from their onset, and in which the patient is in extreme danger in the earliest stage of the affection, or, at the latest, on the second or third day.

The second division would include those cases in which the attack is less severe and the progress of events less rapid, but in which suppuration finally occurs at the end of one or two weeks, or later. While in many of these cases the pus will in time find exit for itself, yet a reasonable operation for its removal will save time, suffering, and a certain amount of danger.

And, finally, there are numerous instances in which the symptoms are comparatively mild from the first, in which there may or may not be a tumor, and in which little danger is to be apprehended. These cases terminate in resolution, but, like those in the preceding class, they are liable to recurrence.

As regards treatment, it may be said briefly, that cases of the first class demand early operation; those in the second division call for rest, opium, leeches and poultices, and finally incisions, while the milder cases can be safely managed by non-operative measures.

With your permission I will very briefly refer to a few cases, which will serve to illustrate the above classification, as well as some others of general peritonitis in which laparotomy was resorted to without any beneficial result.

FIRST CLASS.

A policeman, about forty years of age, a patient of Dr. E. J. Forster, was seized with a moderately severe pain in the belly a few hours after eating heartily of canned lobster. Dr. Forster saw him on the second day, and called consultation at once. The abdomen was moderately distended, no flatus having been passed. A space not over two inches in diameter, situated in the right iliac region, was exquisitely tender. Laparotomy was done the next day, the incision being made over the tender spot above mentioned. Fecid pus, adherent intestines, and an enlarged and perforated appendix were readily found. On passing a probe into the hole in the appendix a hard substance was detected, which, on being removed, appeared to be a piece of solder about a third of an inch long. The appendix, which was about half an inch in diameter, was ligatured and cut off. The wound was closed around a drainage-tube. There were no symptoms of collapse either before or after the incisions. The patient was apparently neither benefited nor harmed by the operation. The symptoms of general peritonitis went steadily forward, and death occurred in about thirty hours after the operation, or on the fifth day of the disease.

The progress of this case was much like that of a

¹ Read before the Roxbury Society for Medical Improvement, October 23, 1890.

boy, who was under my care many years ago, before treatment by incision was in vogue. The symptoms were violent pain in right side of belly, vomiting, constipation, delirium and death in six days. An autopsy revealed general peritonitis arising from a perforated appendix, containing several small concretions of inspissated feces.

A young man was sent to the hospital by Dr. Coffin, on the third day of his illness. Without any known cause he had been seized with severe pain in the right iliac region, followed by vomiting, fever and chills. The belly was moderately distended. There was no lump to be felt in the lower right corner, but it was extremely tender, and there was distinct dulness on percussion, and marked resistance to pressure. An incision was made at once at the place indicated by the tenderness. A moderate amount of fetid pus was evacuated, but no foreign body was found, nor was the appendix seen. The adhesions of the intestines were broken up to a moderate extent in our efforts to find the appendix, but the search was not prolonged over five minutes. A drainage-tube was inserted. The discharge had nearly ceased in twenty-four hours. The wound was closed in a week, and the man was well in three weeks, and two years later was at work upon the horse-car. He has thus far had no recurrence, so far as we know.

SECOND CLASS.

A gentleman, about forty years of age, was seized with symptoms of acute indigestion a few hours after eating moderately of popped corn. The pain increased gradually, but it was not attended by much vomiting, nor were there any symptoms of collapse. At the end of a week there was fever, tympanites, tender abdomen, restlessness, imperfectly controlled by opium, and a firm, indurated area in right iliac region extending above the crest of the ilium. The symptoms were steadily progressing in the wrong direction. An incision was made above the crest of the ilium in the loin, and carried down through the muscles and fascia into an abscess, which extended forward and downward into the iliac fossa. A small piece of foreign substance was washed out, which was, undoubtedly, fecal in its character, from the fact that a similar piece, obtained later, was shown by the microscope to be composed of fat and vegetable fibre. Convalescence was reasonably satisfactory. The wound was healed in seven weeks. It is now nearly three years since the operation, and the patient is apparently as well as ever. From the location of the cicatrix this patient runs very little risk of having a hernia.

A lad, sixteen years of age, a patient of Dr. Gerry, felt something give way in his left side while lifting. In three days he began to complain of belly ache. Peritonitis supervened, and at the end of sixteen days I saw him. The belly was flat, hard, moderately tender, and there was a lump the size of an orange in the left iliac region. A soft, elastic tumor was also easily detected in the rectum. An incision over the bunch above mentioned gave exit to a large quantity of flaky pus from the general peritoneal cavity. The "lump" felt outside was a mass of lymph, and the tumor in the rectum was a collection of pus. The belly was irrigated freely with hot carbolized water once a day. The abscess proper became walled off from the peritoneal cavity in a few days, and the further treatment was simple. The patient was in bed about three months.

He is now, four years later, well, and free from hernia. He has had no symptom whatever of trouble in the affected region. This was probably a case of traumatic peritonitis.

Another case, seen with Dr. Joseph Stedman, had its origin in errors of diet and sleeping upon the ground without sufficient protection. The earlier symptoms indicated enteritis, but in about two weeks there was severe general peritonitis, with a lump just above and to the left of the symphysis pubis. A tumor was also detected in the rectum. The constitutional symptoms were severe, and the indications for interference were plain. The patient made a good recovery in a few weeks after laparotomy was performed.

This young gentleman had another attack a year later, and the abscess broke spontaneously into the rectum, and he finally got well without operation. He has been threatened with a repetition of the affection upon several different occasions since, but has thus far escaped anything as serious as the first attacks.

In operating upon this patient, a peculiarity was met with, which in a previous case had led me to abandon the operation and let Nature make the opening, which she had already nearly accomplished. I refer to a tympanitic condition of the abscess. As there was no marked obstruction to the bowels, the opening was carefully made by the Hilton method, and it gave exit to gas and pus, but to no feces. An exploring needle used in one of these resonant abscesses gave exit to nothing. The evidence was purely negative, and under the circumstances it was worthless. It is to be borne in mind that tympanitic abscesses in the vicinity of the intestines are not a very uncommon occurrence. Sometimes crackling, like that of an emphysema, is to be felt underneath the skin.

Three cases of appendicitis terminating in fecal fistula in which no operative measures were resorted to, have come under my notice during the past few years. In two of these patients the symptoms were extremely severe, entitling them to be placed in the first class. They simply show that Nature can occasionally save even a most desperate case of appendicitis, but she does it in a way not at all desirable. The results obtained by the expectant treatment constitute very strong arguments in favor of incision. It is a fact that in many cases of perforation of the appendix bits of feces, or even several fecal discharges may come from the wound, yet the sooner the pus and the foreign matters are evacuated, the less danger there is of a permanent fecal fistula.

Moreover, so far as I have observed, fistula following a seasonable operation give very little trouble, as they soon close and remain closed. In one of the "expectant" cases feces escaped freely from the wound a year after the abscess broke. In another case the fistula opened occasionally for some years and gave exit to a small amount of intestinal fluids, but it finally became soundly healed. I have never seen a permanent fistula in the class of cases under consideration, which has followed an incision made at a seasonable time in the progress of the case, with possibly one exception. It is certainly less common after an artificial than after a spontaneous opening.

THIRD CLASS.

I need not weary you by detailing cases of the third class. They are by no means uncommon, and so far as I have seen them, they terminate in recovery.

Recurrence is quite frequent. The symptoms are slower in their development, less severe in character, and are benefited by appropriate management. Rest, leeches, poultices and opiates should constitute the main features of the treatment. Cathartics are to be avoided until all acute symptoms have subsided. I have seen two cases, if not more, in which a fatal result was hastened or perhaps caused by the injudicious use of cathartics. The bowels may be locked up two weeks or more if necessary under these circumstances with benefit, and then induced to move with safety by the use of small doses of castor-oil, aided, if necessary, by injections of sweet oil and other substances.

It is no unusual occurrence for cherries, grape-seeds, currents, etc., to produce a good deal of disturbance in their course through the intestinal tract. The geography of the appendix, and the locality of the pain vary so much in abdominal affections, that no great dependence can be placed upon the seat of the distress and tenderness in many instances. As a general rule, if there be no marked, localized tenderness, small doses of castor-oil are reasonably safe and efficient in those cases. If, on the other hand, a distinct localization exists, or if there be febrile disturbance, laxatives are to be used with great caution, if at all.

The futility of incisions in cases of general peritonitis without localization is well illustrated in a case seen with Dr. Edson. A boy about ten years old had a severe attack of this affection. It was a question as to whether the inflammation was more severe in the right iliac region. An incision was made in that locality giving exit to flaky, foul-smelling fluid, adhesions were broken up, free irrigation used, and the wound dressed antisceptically with drainage-tube. In twelve hours the discharge had nearly ceased, and the patient was worse. Ether was given, adhesions were separated, even more freely than before, and the wound dressed as formerly. The next morning the tube was nearly dry, tympanites increased and all the symptoms aggravated. After much deliberation it was determined to make one more effort to save the boy. Ether was administered for the third time, an incision was made in the median line, adhesions broken up in all directions, drainage-tubes introduced, and free irrigation with hot water resorted to. This procedure was no more successful than the others had been, and the patient died in less than twenty-four hours, having been in the greatest agony after the final operation, except when under the influence of ether. Morphia, even when given subcutaneously, afforded no relief.

A man entered the City Hospital having severe general peritonitis with no symptoms of localization and without collapse. An incision gave exit to a large amount of nasty pus. Very thorough irrigation was made with a warm solution of hydro-naphthol (1-2,000) two large drainage-tubes were inserted in different directions, and careful antiseptic precautions followed throughout the treatment. The discharge ceased in a few hours and repeated irrigation failed to remove anything. Death followed within forty-eight hours. At the autopsy very little fluid was found in the peritoneal cavity, but extensive adhesions existed in all directions, and the appendix was found to be gangrenous and firmly imbedded in the surrounding exudation. The operation in this case did no good, nor harm, but if operative measures cannot save these patients, it is obvious that nothing else will. Incision, irrigation,

careful and thorough antiseptis, stimulants and opium, and great care to prevent shock and prostration are the indications for treatment.

So far as my observation goes, cases of acute general peritonitis without symptoms of localization at any time are not benefited by abdominal section. Pus, flaky lymph, etc., are usually present in these cases, but it is not practicable to thoroughly cleanse the peritoneal cavity. Adhesions form about the opening in a few hours shutting off the general cavity of the peritoneum, obstructing drainage-tubes, and the disease takes its usual course.

The aspirator is not to be relied upon for the detection of fluid in these cases. Hilton's method of exploration is far better. It consists in making an incision through the skin, fascia and muscles; then substituting the director for the knife, it is carefully pushed forward in the direction indicated. The small opening thus made is then dilated to the desired extent with very little risk to any important vessels or other structures.

What, then, are the indications for operation in cases of appendicitis, or localized peritonitis? Any one, who has had any experience in these affections, can but admit, that it is very difficult, if not impossible, to lay down definite rules, which will cover all points in the subject under consideration. Much must necessarily be left to the judgment of the operator in deciding the question in each case. It goes without saying, that the violent cases coming under the first class in this paper, call for an early operation, that is, on the second or third day. The treatment may not save the patient, nevertheless, the indications for its adoption are imperative, and the surgeon can rest assured, that he will do little harm, even if he can do no good. It is the only treatment worth considering in those "fulminating" cases in which the victim is in extreme danger from the first onset of the disease.

It may be said in a general way, that a tumor located in any part of the abdominal cavity, inflammatory in its character, and accompanied by pain, tenderness, and more or less febrile disturbance, calls for operation. Cases which have passed the febrile stage, but, in which, the local deposit does not diminish at the end of three or four weeks, often require exploration; and this treatment is especially indicated, if the symptoms are aggravated by the patients getting up and moving about. I have recently operated upon four cases under these circumstances. A gangrenous appendix was removed from one of these patients, and pus existed in all.

It is to be remembered that suppuration may exist to a considerable extent without the presence of any febrile disturbance whatever. Several cases of this sort have come under my observation, in which an operation was justified by the persistence of the affection. On the other hand the mere presence of a lump does not necessarily indicate operative measures for its removal. Many of these masses of induration are removed by absorption. If they persist for three or four weeks without showing signs of resolution, surgical measures should receive careful consideration.

Cases of non-traumatic, general peritonitis, in which the symptoms have shown no tendency to localization throughout the whole course of the disease, offer the least encouragement for operative treatment. I have never seen a patient recover under these circumstances after an operation. I hope other surgeons have been more fortunate.

Finally, we have to do with quite a large class of cases in which the symptoms, even if severe, are very transitory. Convalescence is early established, and proceeds with more or less rapidity to recovery. These cases require rest, leeches, poultices or fomentations, and later, blisters and perhaps an occasional dose of castor oil. They generally recover after a longer or shorter time, and leave the patient as well as ever.

THROMBOSIS OF ARTERIA CENTRALIS RETINÆ; LARGE RETINO-CILIARY ARTERY; CENTRAL VISION UNIMPAIRED.¹

BY O. F. WADSWORTH, M.D.

IT has been suggested that the presence of a so-called retino-ciliary artery might, in the event of embolism or thrombosis of the arteria centralis, serve for the preservation of central vision, but no instance of the kind has, so far as I am aware, been reported. The following case is, I believe, an example.

Katie C., twenty-four years of age, unmarried, weaver, discovered on the morning of February 4, 1890, that the sight of her left eye was much affected. She had a headache at the time, but in other respects was and continued in her usual fair health. She had observed no special change in the sight until I saw her, a week later, February 11th.

The external appearance of both eyes was normal. Vision of either eye $\frac{1}{2}$. The right eye, except for a few dots of pigment on the anterior capsule, was quite normal. In the left eye, although central vision was perfect, the field was contracted to a small oval, measuring in its long, horizontal diameter some twenty degrees. The media were clear. The greater part of the disc and of the fundus for a wide extent around it was obscured by a uniform, whitish haze, such as is characteristically seen in embolism or thrombosis of the central artery. But in embolism or thrombosis of the arteria centralis it is characteristic that the haze appears most dense in the macular region, and here the macular region was wholly unaffected. Perhaps one-tenth or one-twelfth of the outer part of the disc, and an area of the retina, measuring at the edge of the disc about a third of the disc diameter in the vertical direction, gradually widening as it extended outward, and at the centre of the macula having a width of about one and one-third diameters, was entirely free from haze. This free area reached farther above than below the fovea, and the haze at its upper border was very well defined, at its lower border shading off imperceptibly. Except in this free area, the haze over a wide extent around the disc was sufficiently dense to hide or greatly obscure the vessels, only a few short portions of them on and close to the disc appearing with defined outlines; it completely hid the outline of the disc except for a short distance on the temporal side; towards the periphery it gradually faded.

A striking peculiarity was the presence at the edge of the haze, where it bordered the free area that extended outward from the disc, of several irregular wide bands of a more dense and brilliant white, recalling in tone the white, defined patches seen so frequently in albuminuric retinitis. These were not perfectly uniform in whiteness, but showed slight markings as if they might have been formed by coalescence of

¹ Read before the American Ophthalmological Society, July, 1890.

smaller patches. They were sharply defined against the free area on one side, and although the haze reached in undiminished intensity to their other side, yet their brilliancy of tone was such that the definition was hardly less pronounced on that side also. Two of these bands (the word is not very closely descriptive) extended outward from close to the edge of the disc something more than half a diameter; two others were situated at intervals at the upper edge of the free area; a fifth extended downward and outward from a point about a diameter outward and downward from the fovea. The latter three suggested in shape and markings a length of large intestine.

For a moment or two the appearance of the fundus was puzzling, but the explanation was soon found. A retinal artery of considerable size emerged from under the outer edges of the disc a little below its horizontal diameter, described a semicircle on the disc, and then ran for nearly a diameter straight towards the fovea, when it swung in a wide curve upward and outward to descend and branch something more than a diameter to the outer side of the fovea. From the point where it turned upward and outward on the retina, a small branch ran outward and downward a little below the fovea. Evidently the circulation in the macular region was kept up through this artery.

Two days later, February 13th, the haze was beginning to diminish. I spent some time in making a sketch of the fundus, and while I rested Dr. Cheney examined the eye again. He discovered in a branch of the inferior temporal vein, some distance below and a little to the outer side of the fovea, an irregular movement of the blood column. The branch in question ran nearly horizontally and joined another of the same size coming from above and outward. The color of the blood in the latter branch, as in the larger vein formed by the union of the two, was normal. In the horizontal branch the color was much darker, the blood column was broken into lighter and darker masses and these masses oscillated rhythmically to and fro, but at the same time advanced. Where the dark blood passed into the larger vein it flowed at first along its lower side, so that for a short distance the darker and lighter currents ran along side by side, the darker gradually becoming narrower until after a little it could no longer be distinguished. Searching the fundus still further, I found a similar but less marked oscillation of a broken blood column in a branch of the superior temporal vein outward and upward from the macula.

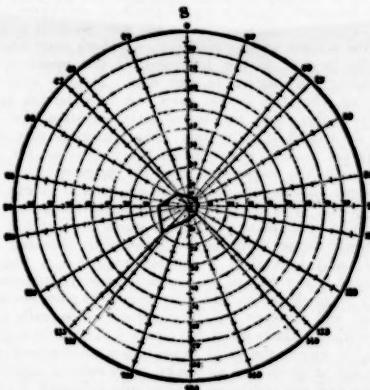
February 15th, the haze was less; the pulsation was still present in the two veins, but less pronounced.

February 18th, the haze had cleared so much that all the larger veins and arteries could be seen on the disc and beyond, apparently of full size: on the disc at least, all the larger vessels were now clearly defined. The dark colored venous branches in which pulsation had been seen were now so nearly of the same color as the veins into which they emptied, that no difference would have been remarked had they not been observed before; they showed no irregularity of current and had a well-marked light streak. Although the haze generally was much less, the "bands" were still well-marked, but not quite so bright as before. The central vision was still $\frac{1}{2}$, and the field apparently unchanged.

From this time the patient was lost sight of and the eventual result must therefore remain in doubt. Yet

the fact that for two weeks central vision continued perfect, makes it probable that it did not subsequently deteriorate. On the other hand, I am inclined to think that the retinal arteries, the retino-ciliary branch excepted, and veins did undergo more or less shrinkage.

That the only directly visible disturbance of circulation was observed in the veins might be held to point to an affection primarily venous rather than arterial. But the wide extent of the edema of the retina, impartially distributed in all directions except toward the macula, can hardly be explained otherwise than by an interference with the blood current in the main trunk, whether of vein or artery. And if the trunk of the vein were blocked there is no apparent reason why the district supplied by the retino-ciliary artery should have been in any way less affected than the parts supplied by the arteria centralis; and then, moreover, distention of the veins, which did not exist, should have been expected. Per contra, the plugging of the trunk of the arteria centralis while the retino-ciliary branch was pervious would rationally account for the peculiar distribution of the edema.



It remains to account for the apparently undiminished size of the arteries. A certain amount of shrinkage from the original size there may have been, for the haze had not wholly disappeared when the patient was last seen, although on the disc the vessels were clearly defined. That may be explained, perhaps, on the supposition that the circulation was not entirely interrupted at the first, and that afterward the plug was broken up or shrank, but too late to admit a recovery of function in the parts of the retina from which nutrition had been largely cut off.

I have preferred to call the lesion here thrombosis rather than embolism, because a very careful examination by Dr. W. W. Gannett failed to reveal any disease of the heart or large vessels, and because I believe the evidence indicates that thrombosis of the retinal arteries is the more common affection of the two.

— A new danger has been revealed by an enthusiastic bacteriologist. He says: "I have been examining street-car straps under the microscope lately, and I find them filled with thousands of bacteria, which must be excessively dangerous as transmitters of disease."

ON THE FATE OF THE HUMAN DECIDUA REFLEXA.

BY CHARLES SEGWICK MINOT, M.D.

THE decidua reflexa is a distinct membrane up to the end, it is said, of the fifth month of gestation, and after that period it can no longer be found. Exactly at what time it disappears, is not established by observation, though the fact of the disappearance has long been known. Nor have we had hitherto any definite knowledge as to how it disappears, although its gradual attenuation and increasing transparency during the first four or five months have been familiar to us since the publication of Coste's magnificent atlas. The view most generally accepted has been that it fused with the decidua vera, and that, accordingly, the layer of decidua nearest the chorion during the latter half of pregnancy represents the decidua reflexa.

I have had opportunity to study four well-preserved, normal pregnant uteri of two, three, five to six, and seven months' gestation, respectively. These show that at two months the decidua reflexa is undergoing hyaline degeneration, that at three months the degeneration is considerably more advanced, and that by the sixth and seventh month the reflexa can no longer be found. These observations justify the theory that the reflexa degenerates and is completely resolved.

I will review briefly the actual observations.

First, the reflexa at two months. It starts from the edge of the placental area with considerable thickness, which is rapidly lost, most of the reflexa being a thin membrane, and the thinnest point being opposite the placenta. The examination of sections show that the entire reflexa is undergoing degeneration, which is found to be the more advanced the more remote the part examined is from the placenta. The chorion laeve lies very near the reflexa, being separated only by chorionic villi, which are very much altered by degeneration, their ectoderm having become a hyaline tissue which stains darkly, and their mesoderm showing clearly the partial loss of its cellular organization. In the region half-way between the base and the apex of the dome of the reflexa, the tissue of the decidual membrane shows only vague traces of its original structure; only here and there can a distinct cell with its nucleus be made out, for most of the cells have broken down and fused into irregular masses without recognizable organization. Ramifying through the fused detritus there are two layers of so-called "fibrine"—or, in other words, of a hyaline substance, which, like the "canalized fibrine" of the chorion, stains very deeply with the ordinary histological dyes (carmine and logwood). The fibrine is much more developed upon the inner or chorionic than upon the outer side of the reflexa. It forms on the inner side a dense network, which, on the one hand, fuses with the degenerated ectoderm of the chorionic villi wherever the villi are in contact with the decidua; and, on the other hand, ramifies more than half-way through the decidua, the ramifications being easily followed owing to the hyaline character and deep staining of the "fibrine." Upon the outside the fibrine forms a thinner layer, and shows its network structure in many sections much less clearly.

In the uterus three months' pregnant I find essentially the same conditions except that the degeneration is farther advanced, since the traces of cellular structure in the reflexa are still more vague and the fibrine

is more developed. The membrane is much thinner than at two months; the thickness is about two-thirds of what it was. In the fresh specimen the membrane appeared much more transparent than before. In all the parts examined, I found leucocytes present, and in the region of the reflexa near the placenta they are very numerous and conspicuous; it is natural to conclude that they are concerned in the resorption of the degenerated tissue. In a section not far from the base of the reflexa the three layers are distinct as at two months, there being a thicker inner and a thinner outer fibrine layer, while between them is a stratum in which remains of cells are seen; occasionally is an appearance which suggests a surviving decidual cell, and nearer the placenta the phantoms of cells become distinctly cells and true decidual cells can be made out. The inner fibrine layer is much denser and its meshes smaller than in the two months' specimen, the trabeculae of fibrine having become thicker during the month elapsed.

The relations of the amnion and chorion to one another in a uterus of seven months I have already described and illustrated in detail in my article "Uterus and Embryo."¹ I will recall only that the chorion lies directly against the decidua; between the chorionic mesoderm and the decidual tissue, extends a layer of epithelioid cells, which I interpreted as the modified ectoderm of the chorion, a view which I still hold. Of a membrane between the chorion and the decidua there is no other trace.

Those who conceive that there is a fusion between the reflexa and the vera, are forced to seek for traces of the former membrane next the chorion. They may assume either that the epithelioid layer is the remnant of the decidua, which forces them to leave the fate of the chorionic epithelium unexplained, or that the upper stratum of the decidua is the reflexa which is fused with and acquired the same structure as the underlying vera. If my observations on the degeneration of the reflexa are correct, and correspond, as there is sufficient ground to believe they do, to normal conditions, then both assumptions as to the persistence of the reflexa involve the further and very improbable assumption that the degenerated tissue is removed and replaced by fully organized cellular decidua tissue. It is obviously more in accordance with our knowledge of degenerative changes to assume that the hyaline metamorphosis is necrotic, and is succeeded by the disintegration and removal of the tissue. This accounts in a satisfactory manner for the absence of the decidua reflexa during the sixth and seventh month. The relations of the membrane at this period have been well described and figured by an admirable observer, Dr. G. Leopold, whose views and one of whose drawings have been incorporated by Prof. O. Herting in his "Entwickelungsgeschichte."² Leopold holds that the epithelioid layer is the reflexa; but what has just been said suffices, I think, to show that this view is untenable.

That the membrana decidua reflexa should degenerate and disappear no longer seems strange, since recent investigations have shown that in many placental mammals there occurs an extensive pseudo-pathological destruction of the mucosa uteri during gestation; these changes which are best known in the rabbit,³ may vary considerably in character, and are exceed-

¹ Journal of Morphology, vol. II, 425-426, cuts 33, 34.² Third Edition, p. 216, 217; fig. 147.³ Cf. Minot, Biol. Centralbl., 1890.

ingly remarkable, both for their extent and for their numerous modifications, so that we need feel no surprise at the entire destruction of the decudua reflexa in man, nor at form of the destruction being unlike the forms heretofore found in other mammals.

As to the purpose or advantage of the sacrifices of maternal tissue, we are in the dark. The same is true of the causation of the degeneration, although we must regard it as the result of a reflex nervous activity. It is becoming more and more evident that the nerves have a profound influence upon organization, and it is no strained hypothesis which places the structure of the mucosa uteri under the immediate control of the nervous system.

A NEUROPLASTIC OPERATION.

DESIGNED FOR THE RESTORATION OF NERVE TRUNKS THAT HAVE BEEN DESTROYED BY INJURY OR DISEASE.

BY H. H. A. BEACH, M.D.,
Visiting Surgeon, Massachusetts General Hospital.

THROUGH the connections of a tumor with an important nerve, and from the fact that such a growth derives its origin from the nerve or its close vicinity, it occasionally happens that an excision of the tumor necessarily sacrifices a section of nerve. A similar destruction of nerve tissue may attend the crushing and tearing of soft parts incident to severe railroad and machinery accidents, thereby impairing the usefulness of a limb, to a serious degree. In the cases where a nerve so injured is large enough to permit the operation to be described, the latter offers a chance for the restoration of nerve function that can be gained in no other way. Although I have had no opportunity as yet to make a practical test of its value, I am encouraged in the belief that it may be of worth, through some experiences in the junction of nerves that have been severed but not otherwise injured. Others of the profession may have cases before me, that can be helped by its application, and upon that ground alone, though it is against my preference, I will not defer its publication.

Operation. — For convenience, the severed ends of the nerve may be described as three inches apart. Pick up the nerve with a tenaculum or needle, and transfix it with a silk suture. The latter is useful in place of forceps for regulating the tension of a nerve during its dissection, without bruising its tissue. Care must be taken not to exercise too much traction, or the suture will tear through the nerve. Open the nerve sheath for three and one-fourth inches in either direction from the wound by following one of the divided ends, or in both directions for one and three-quarters inches. Then, having measured the distances accurately, partially divide the nerve trunk, in a vertical direction to its axis, at the required point, and split the nerve to a point within one-third of an inch of its end; thus,



N is the other severed end, to which the flap is to be joined by fine sutures, the flap being sufficiently long to avoid tension; thus,



From the character of the injury, it is possible that, in some instances, it will be more convenient to take a flap on one side of the wound, from the superior half of the nerve, and on the other side, from the under half of the nerve. This change would not materially alter the technique of the operation, as shown by the following diagram:



Should any tension be produced by either method the flaps are of insufficient length.

The method adopted for joining the ends should be governed by the accessibility of the nerve trunks without excessive or unnecessary dissection. A pair of dividers will be found convenient for measuring distances.

The operation, which has not, so far as I am aware, been described or employed before, may be suitably termed "Neuroplastic," and will, I hope, meet the commendation of surgeons who may have occasion for its use.

REPORT ON PROGRESS IN DERMATOLOGY.

BY JOHN T. BOWEN, M.D.

LUPUS FROM INOCULATION.

THE dermatological clinic at Breslau that has produced so many scientific papers of late years, afforded an opportunity to Dr. Jadassohn, the assistant physician, to report two interesting cases of tubercular infection of the skin.¹

The etiological identity of lupus and tuberculosis is now recognized by all but a very few observers, yet much remains to be explained. The manner in which the tubercular infection takes place, the peculiar clinical features that distinguish lupus from other tubercular lesions, especially those upon the skin, are matters of which our knowledge is still very limited. The author speaks well when he says that it is only by the publication of carefully observed individual cases, that we can hope to obtain a basis for more systematic investigations.

CASE I. His first case is that of a butcher, twenty years of age, who had received, eighteen months previously, a cut on the end phalanx of his right forefinger while engaged in his occupation. The wound did not heal. Nearly a year after the injury there appeared a lesion upon the lower arm of the same side, and very soon afterward a nodule upon the upper arm, which opened spontaneously and evacuated a considerable quantity of pus. When seen at the hospital he exhibited an ulcer upon the forefinger with thin edges, somewhat undermined and in places dentated. The floor was shallow with soft granulations, between which were isolated collections of pus. The movement of the joint between the second and third phalanges was much limited. At the upper end of the forearm were three small ulcers lying in a line with one another, similar in character to the lesion of the

¹ Virchow's Archiv., Bd. 121, Hft. 2.

finger. On the upper arm were three similar patches, one of which, however, was not ulcerated and showed plainly beneath the thin epidermal covering one or two small nodules. It was found necessary, on account of the extensive loss of tissue, to disarticulate between the first and second phalanx, while the lesions upon the arm were freely excised. The histological examination offered the appearances of an infiltration process in which the specific elements of tuberculosis although present, were sparingly observed. The lesion of the upper arm showed microscopically a lymph-gland in the lowest layers of the cutis, separated from the adjoining tissue by a firm capsule. This gland presented a typical picture of epithelioid and giant-celled tubercle with central necrosis. Above the gland, in the corium lay nests of small round cells with an occasional Langhan's cell in the centre. After a prolonged search it was possible to demonstrate the bacilli of tuberculosis both in the ulcer of the finger and in the lymph-gland from the upper arm. The writer considers it most probable that the wound upon the finger offered a point of ingress to the tubercular virus which was then carried by the lymphatics to the lymph-gland, from which point the skin of the arm became infected secondarily. Positive proof of this is wanting, but so much is clear: that a tubercular ulcer of not especially characteristic appearance showed itself at the site of an external injury, and that this was followed by a typical lupus of the arm. The probability that the virus was transferred from the ulcer to the arm by external means (as by the fingers in scratching) is to be wholly excluded.

CASE II. A woman of thirty had had some letters and figures tattooed on her left arm nine years previously. Beneath them a wreath had been pricked in at about the same time by a man who had used his saliva for moistening the India ink. This man was, on good evidence, phthisical at the time of the tattooing, and died soon afterward at the hospital of tuberculosis of the lungs. At several points of the tattooing the wounds made by the punctures had never healed, and several typical lupus plaques with characteristic nodules were now apparent. The plaques were excised and showed histologically the typical lupus structure with the presence of bacilli very sparingly.

The writer then discusses the etiology of spontaneous lupus at some length. Three views are entertained: (1) That lupus is caused by an hematogenous infection, or in other words that the virus circulating in the blood is brought through its channels to the affected cutaneous area. This is the view warmly espoused by Baumgarten, who regards it as the usual, if not the only, mode of infection. (2) That the skin is affected per contiguитетem from structures lying below it, which have become tubercular. This mode of infection cannot be doubted, as so many cases of lupus developing upon fistulae and diseased glands are known. (3) That lupus is the result of direct inoculation of skin and mucous membrane.

The writer claims that all of these modes of infection can, and probably do, prevail, and takes issue with Baumgarten's statement that the usual way is by the channels of the blood. His second case he considers undoubted evidence of infection by direct inoculation, and is inclined from his clinical experience to consider this latter the more frequent mode. The variations in clinical appearances that the inoculation of tubercular virus shows upon the skin, seem to be

very great and are dependent on the difference in mode of infection, place of infection, and possibly also in the virulence of the bacilli. We are already able to distinguish clinically several different forms of tuberculosis, and it may be expected that we shall in the future be in a position to differentiate numerous transitional forms between the individual species.

[The greater interest is attached to the second case from the fact that few, if any, authentic instances of true lupus caused by direct inoculation of tubercular virus have been reported. The records of the past few years, however, afford numerous examples of tuberculosis verrucosa cutis (including the anatomical wart) and of doubtful looking ulcers, produced by direct contact of the secretions of phthisical subjects with the skin. With these forms of cutaneous tuberculosis a lupus is sometimes allied, but in most instances the probabilities favor the view that it was developed secondarily. A single example of the kind reported above cannot be considered as conclusive, as Baumgarten and the advocates of the hematogenous theory might reply that here, too, the lesion could be explained as the result of the action of the bacillus when conveyed by the blood current to a locus minoris resistitiae caused by the tattooing. No other symptoms or family history of tuberculosis could be elicited, however, and if a number of such instances can be collected, all doubt that "spontaneous" lupus is sometimes, at least, produced by the direct inoculation of tubercular material must vanish.—REP.]

ACUTE GANGRENE OF THE SKIN AND GANGRENOUS ZOSTER.

From time to time there have appeared descriptions of an acute form of gangrene of the skin, differing from Raynaud's disease in many particulars, and not always described under the same title. Sangster, Neumann and Leloir have all published cases of this nature, which have been interpreted in various ways, some authorities even considering them as having been produced artificially. The resemblance of these lesions to herpes zoster was alluded to by Neumann, and of late there have appeared several advocates of the view that they represent an atypical form of zoster gangrenosus.

Doutrelepont² relates the sequel of a case of this nature that he had described in 1886,³ and had had under almost constant observation since, and which he thinks should be placed in the same group with herpes zoster. A strong, healthy looking girl, twenty-one years old, who had previously had several convulsive attacks of an hysterical nature, pricked herself under the nail of the thumb with a needle. Seven days later the first appearances showed themselves in the form of small spots of gangrene on the skin of the first phalanx of the thumb, attacking then the back of the hand, arm and shoulder, and extending gradually over the whole body, and the mucous membranes as far as visible. The eruption appeared in the form of outbreaks of gangrenous patches, which appeared simultaneously on different parts of the body and were attended with a rise of temperature. The gangrenous patches were, at the outset, made up of groups of small, round spots, which were shown by histological examination to represent the beginning of vesicles, and in the farther course of the case, groups of vesicles were frequently

² Archiv. f. Derm. u Syph., 1890, s. 385.

³ Viertel. f. Derm. u Syph., 1886, s. 179.

seen on the skin, both detached, and at the periphery of the foci of gangrene. At one time the outbreak took the form of grouped vesicular lesions on the face, which could not be distinguished from a double zoster. The patient had frequent attacks of extreme excitement or of great depression and made three attempts upon her life. No disturbance of the sensibility of the skin could be detected except some hyperesthesia of the regions affected. Finally, she was seized with hemorrhages from the lungs, and died a few months later with the symptoms of a rapidly progressive phthisis, during the course of which occasional outbreaks of eruption were still observed on the skin and mucous membranes. The autopsy revealed a tuberculosis of the lungs, but threw no ray of light on the cutaneous affection, although a careful examination of the brain and cord was made.

Kaposi¹ related four cases which he classifies as atypical zoster gangrenosus. They present many points of resemblance with Doutrelepoint's² and those previously described as multiple gangrene of the skin. They were characterized by groups of vesicles with gangrenous change in the centre, differing from an ordinary gangrenous zoster (*a*) in their bilateral distribution, (*b*) in not following the course of a spinal nerve or that of the trigeminal, and (*c*) in their recurrence in successive outbreaks. They were exhibited mostly in young, hysterical women, in whom paresthesia is noted, in one case even complete left hemianesthesia. He regards the affection as a vasomotor or tropho-neurotic disturbance, of hysterical nature, and proposes to classify it as zoster gangrenosus hystericus.

SKIN-GRAFTING.

At a meeting of the New York Academy of Medicine, held October 2, 1890,³ Dr. Charles McBurney read a paper on "Thiersch's Method of Skin-Grafting," which had proved most successful in twenty-four cases of deep loss of tissue in his hospital practice. In the succeeding discussion Dr. P. A. Morrow, who had had no personal experience with Thiersch's operation, related an interesting case of skin-grafting in the field more especially occupied by the dermatologist. The subject was a man who had become almost hypochondriacal on account of a scar on his scalp which had become exposed by the fall of his hair. Dr. Morrow took grafts with the cutaneous punch, very much smaller and thicker than those used in Thiersch's method (the grafts here consist of thin shavings four or five inches long and one inch wide), from the opposite side of the patient's own scalp and inserted them at once into holes of the same size made by the same instrument in the scar-tissue. Union was complete within a week. "Four grafts were made and he waited several weeks to see if the hair would grow. It did. He then made transplantsations from another patient's scalp and these also grew and bore hair luxuriantly. The grafts were fully one-quarter of an inch thick. There was no suppuration, no untoward result. He had employed the same method in one or two cases of epithelioma; and while there was no indication of breaking down, there had not been sufficient time to justify conclusions." He thought that lupus, moles and warts, might possibly be treated by this method also.

Dr. Girard, a speaker who followed, stated that in

one case he had placed grafts from the skin of a negro on a white man, with the result that they remained for some time black, gradually, however, taking on the white appearance of the surrounding tissue.

(To be continued.)

Reports of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED Meeting November 17, 1890. The Vice-President, S. B. WYLIE MCLEOD, M.D., in the chair. DR. J. LEWIS SMITH read a paper on

APPENDICITIS, TYPHILITIS AND PERITYPHILITIS IN CHILDREN.

After some preliminary remarks on the structure and relations of the parts affected, he spoke of the period of childhood at which these inflammations were most liable to occur. Matterstock had collated 72 cases, and of these two were under the age of two years, 10 between the second and fifth years, 25 between the fifth and tenth years, and 35 between the tenth and fifteenth years.

In treating of the etiology, he said that the most common cause was the lodgement and impaction in the cecum or appendix, or both, of fecal matter or hard, indigestible bodies, which produce inflammation, and sometimes perforation by their pressure. In 49 cases of fatal perityphilitis embraced in Matterstock's statistics perforation had occurred in 37; from which it might be inferred that in the majority of cases of perityphilitis resulting from appendicitis, perforation of the appendix had occurred. In the analysis of 152 cases collated by Fitz, the result was very similar to that noted by Matterstock. The fecal concretions found in the appendix were single or multiple, and of different degrees of hardness.

Anatomical Characters. — In children the initial lesions, with few exceptions, occur in the appendix. Atrophy or necrosis of its epithelium takes place from pressure of the foreign substance. Then the intestinal microbes invade the exposed sub-epithelial tissue, causing septic inflammation, which extends through the muscular coat to the sub-peritoneal tissue and to the peritoneum, causing a local peritonitis. Or, it ceases before reaching the peritoneum, producing gangrene or ulceration of the underlying tissues, and, as they contract in healing, the lumen of the appendix may be obliterated and its shape changed. Sometimes the appendix is nearly or quite obliterated, its place being occupied by cicatricial tissue; or, its proximal end may be obliterated while its distal end remains open. A retention cyst then results, which may subsequently be inflamed, and may at some point be destroyed by gangrene or ulceration, so that its contents escape, causing peritonitis. Occasionally similar changes occur in the cecum. In the mild and favorable cases of perityphilitis a fibrinous exudation occurs over the inflamed parts, so as to limit the extension of the disease and prevent the escape of pus or fecal matter.

Balzer states that perityphilitic abscess is much less frequent in children than in adults. The location of such an abscess depends on the place of perforation. It is said that in most instances the centre of the abscess is behind or alongside of the cecum, and if it

¹ Archiv. f. Derm. u Syph., 1889, s. 561.

² New York Medical Record, October 25, 1890.

extend upward, its walls consist of intestine and the posterior and lateral parieties of the abdomen. The abscess, left to itself, may open in any direction. Evacuation of the pus per rectum has been regarded as favorable from the time of Dupuytren. But the result is not always favorable when the abscess breaks into the intestine; for, after the pus has been evacuated, fecal matter may escape through the opening, carrying with it microbes which may poison the system and set up septic fever. Extension of the inflammation from the perforated appendix to and around the contiguous blood-vessels may cause disastrous results.

While perforation of the appendix commonly results in localized peritonitis, a more serious and ordinarily fatal result sometimes follows, namely, the occurrence of acute diffuse peritonitis. This may take place immediately after the perforation. Frequently, however, an abscess forms, perhaps of little extent, around the appendix, and it may continue for weeks or months without producing any dangerous symptoms. Finally it bursts, and its contents escape into the general peritoneal cavity, producing an acute peritonitis, which rapidly extends over the peritoneal surface. A large proportion of the cases of perforation of the appendix, if left to themselves, terminate, after a time, in this manner, in peritonitis, which, from its extent and severity, is usually fatal.

Owing to the length of the paper, Dr. Smith omitted the portion describing the symptoms, and went on to speak of the diagnosis. Recurring pain or tenderness in the right inguinal or lumbar region, at intervals of a few weeks, he said, should excite suspicion of the presence of a foreign substance in the appendix. Sometimes the accumulation of fecal matter in the cæcum can be determined by palpation. The diagnosis from invagination is not difficult, since the latter occurs chiefly in infancy, is attended by a tumor more centrally located, and is often accompanied with bloody stools and fecal vomiting. Perityphilitis has sometimes been mistaken for hip disease; but the swelling in the latter is lower down, and in perityphilitic induration the characteristic signs of disease of the hip-joint are absent. Dr. Smith also referred to Senn's hydrogen gas test for perforation, and to the diagnosis between perityphilitis and psoas abscess.

The prognosis varied greatly in different cases. If the inflammation were of little extent and encapsulated, and sepsis did not occur, the prognosis was good. On the other hand, if the perforation of the cæcum or appendix were of considerable size, with the escape of much feculent matter, the inflammation, which resulted in the peritoneum or retro-peritoneal tissue, with, perhaps, consecutive septic inflammation in adjacent organs or tissues, was almost certain to terminate fatally. It was evident that the statistics relating to the result, as given by different writers, varied according to the extent and severity of the disease in the cases which they had collated. Having mentioned the relative number of deaths and recoveries published by various authors, he said that, according to Matterstock, age influences the result in a measure, since of 12 patients under the age of six years, 11 died; of 24 between the ages of six and ten, 15 died; and of 34 between the ages of ten and fifteen, 23 died. Diffuse peritonitis was usually fatal, while evacuation of the abscess into the cæcum or rectum generally justified a favorable prognosis. Evacuation of pus through the abdominal

walls, if it took place at an early date, was also regarded as favorable. Laparotomy and evacuation of the pus through the abdominal walls, if performed at the proper time and with antiseptic precautions, increased the chances of recovery. In those mild cases in which the inflammation was of slight extent and the patient was soon convalescent, a sudden aggravation of symptoms sometimes occurred from breaking loose of the inflammatory products, and the case ended fatally.

Coming to the treatment, he spoke first of the matter of prophylaxis, and then of curative treatment. As to the latter, he referred particularly to the plan of Professor Henoch, of Berlin, who keeps the intestines perfectly quiet by opium, and only gives castor-oil or calomel when prolonged constipation and palpitation indicate the presence of a large fecal accumulation in the cæcum. Otherwise he abstains from purgatives. He applies a few leeches, without after bleeding; if there be much tenderness, gives an emulsion of oil with the aqueous extract of opium every two hours, and uses constantly the ice-bag over the cæcum. When with this the pain and tenderness cease, it is found that defecation usually occurs spontaneously or can be produced by a simple enema or a dose of oil. Henoch has made the following remarkable statement, which, were it not for his well-known accuracy and high professional standing, might be thought to be an exaggeration: "When this treatment was begun early enough, recovery ensued in almost all cases, and if a swelling had been formed by the exudation, its transition into suppuration was prevented even in children who, in the course of a few years, had been repeatedly admitted to the hospital on account of relapses."

Dr. SMITH thought that Henoch's treatment was probably the best that could be adopted before the stage of suppuration. The use of laxatives, even of laxative enemata, he said, should be postponed until the tenderness and other inflammatory symptoms had, to a considerable extent, abated by the use of opium and the ice-bag. If, then, the presence of fecal masses were ascertained by palpation, a large clyster of warm water containing one ounce each of glycerine and sweet oil might be given, or perhaps, as recommended by Henoch, a dose by the mouth of castor-oil or calomel. Even at the commencement of the treatment Dr. Smith thought it proper to employ such a clyster as that mentioned if there were a history of constipation and if on palpation the cæcum appeared to be distended with fecal matter. The diet should consist of liquids which leave little residuum, such as the beef peptones and peptonized milk. Carboлизed water might be allowed to relieve thirst or nausea. If the case result favorably without surgical interference, the child should lead a quiet life, avoiding violent exercise for a considerable time, on account of the danger of relapse.

If the inflammation continued, and a perityphilitic abscess formed, this required opening. In 1882 Dr. R. F. Noyes collated the records of 119 cases in which an operation was performed, only about sixteen per cent. of which proved fatal. The late Dr. H. B. Sande strongly objected to the use of the exploratory needle at an early stage of the inflammation, since it might penetrate the healthy peritoneal cavity and pierce the intestine, and if the instrument entered the abscess the foul substance adhering to it would probably infect the peritoneum and cause diffuse peritonitis. Morton

stated that the aspirator needle should never be used, and Ransohoff also objected to it. G. Buck, Weir, Noyes and Bull advised, if the presence of pus were determined by the needle, to leave the latter *in situ* to serve as a guide in making the incision.

After referring to the various incisions practised by different surgeons, he said that laparotomy had been performed many times during the last ten years, and cases had been published showing very favorable results. Still, it was not to be forgotten that the favorable cases were much more likely to be reported than the unfavorable ones. Having described successful cases reported by Drs. Sands and Homans, he went on to say that such cases show what may be accomplished by surgical treatment even in cases where diffuse peritonitis has resulted. Of course, however, when peritonitis not limited by adhesions occurred, death would result in a considerable proportion of cases under any treatment whatever.

Removal of the perforated and diseased appendix, where it could be readily brought into view, was now generally recommended by surgical writers, since the diseased appendix was a source of irritation, and by the subsequent escape of fecal matter it might cause a renewal of the inflammation. But, in a large proportion of cases, the appendix lay at the bottom of the cavity, surrounded by adhesions, so that it could not be removed without considerable cutting and tearing of the parts surrounding it, and perhaps producing an opening through which inflammatory products might escape into the peritoneal cavity. In regard to the surgical treatment of perityphlitis and the perityphilitic abscess, however, he thought the surgeon was more competent to express an opinion than the physician.

DISCUSSION.

DR. E. G. JANEWAY said he only wished to direct attention to a few practical points, and especially to the question how far liable we were to make mistakes in diagnosis. He then proceeded to enumerate some of the conditions which were likely to be sometimes mistaken for appendicitis or perityphlitis, and *vice versa*. Among these were the following:

Neuralgias affecting the right iliac region and adjacent parts. In making the differential diagnosis it was important to ascertain whether the tenderness was located superficially or in the deeper tissues.

Renal colic. The pressure produced by appendicitis was sometimes liable to cause pain in the region of the right kidney, and this was especially the case if the abscess were situated down between the rectum and the bladder. Here it was of service to make deep pressure in the seat of the appendix.

Fecal impaction. He had met with two cases of this in children where the question of appendicitis arose.

Inflammation of the mucous membrane in certain rare cases, without any impaction or induration. The way in which the symptoms came on, however, if the case were investigated carefully, would generally show that we had to deal merely with a case of catarrhal enteritis, especially affecting the colon. The diagnosis could also be established by the prompt subsidence of the trouble.

Carcinoma of the cæcum. This, of course, was only met with in adults, and was a rare condition.

Pelvic cellulitis and peritonitis in young girls as well as women. Many such cases were doubtful where

the physician was debarred from making a vaginal examination.

Reflected pains, as from pleurisy and pneumonia. The earlier stages of certain cases of typhoid fever. Lumbar abscess from caries of the vertebrae. Subphrenic pneumo-hydrothorax.

While the diagnosis was usually very easy, in some instances it was extremely difficult.

As to the matter of operation, he thought that there was not a sufficiently strong line drawn between the cases in which general peritonitis occurs at the outset, and those in which the trouble is strictly localized. In the former class the patients almost invariably die badly. A question of far more importance was this; If we have appendicitis and peri-appendicitis with induration, is peritonitis likely to result? It was often a difficult matter to decide whether to operate or not. He supposed, however, that it was probably the wisest course to open the abdomen in all cases where appendicitis is followed by peritonitis. In regard to abscess, the abscess should be opened at the earliest moment after a purulent accumulation is discovered. As to exploration with the hypodermic needle, it seemed to him that such a procedure was absolutely injurious unless practised with special precautions. It should only be resorted to, he believed, with the child under ether, and as a prelude to incision. To make such an exploration and then not do anything for, say, twenty-four hours, was a course that could not be too strongly condemned.

DR. CHARLES MCBURNETT said he was sorry to see that Dr. Smith still adhered to the terms perityphlitis and paratyphlitis. It was liable to lead to confusion by giving rise to the idea that there were quite a number of diseases which produced the condition in question, when, as a matter of fact, the appendix was almost invariably the seat of the original trouble; the cases in which this was not so being extremely rare. He agreed with Dr. Janeway that the most interesting and important question to be considered was the one of arriving at a correct diagnosis at the earliest possible moment. In his opinion the physician and the surgeon should study each case together from the very beginning of the disease. The surgeon was very commonly called in at too late a time, when operation could only result in failure, and as an illustration he narrated a case in which he was asked to operate after the attack had lasted six days, general septic peritonitis had set in, and the patient was already in a state of collapse.

The early localized signs were of great importance, and if we hoped to save our cases it was generally necessary that we should decide whether to operate or not within the first twenty-four hours. He had no desire to operate in cases which did not require surgical interference, and therefore he was especially interested in the matter of early diagnosis in the different varieties of cases that were met with. The operation, (by which he meant the opening of the abdomen in order to make a diagnosis) was certainly not a very severe or dangerous one. One very noticeable fact was that even in a large number of cases where a deliberate laparotomy was performed and a considerable amount of manipulation was required, he did not know of a single instance in which septic peritonitis had resulted from the operation. The mortality from the operation was very slight, and the percentage of death, as shown by the statistics, was certainly very much

less in those cases operated on at the proper time than in those in which either no operation was performed, or it was resorted to at too late a period. We are often told to wait till signs of septic peritonitis had occurred; but what course could be more dangerous than this, when the very object of operating was to prevent peritonitis. As to the signs of impending perforation, which we were also told to wait for, he did not know what these signs were, and should very much like to be informed.

As to some of the results obtained from operating in the early stages, Dr. Lewis Stimson had reported five cases, all of which recovered. His own cases amounted to twenty, and all had recovered but one. The fatal result in this case was caused by paresis of the entire intestines, and he was convinced that this had been due to too long delay in operating. Such results were certainly better than those given in the statistic quoted by Dr. Smith. If the patients which were not operated on did not have septic peritonitis, they were liable to suffer in other ways. The appendicitis was apt to go on to abscess, and he knew of two cases in which when relapses occurred, there was extensive burrowing of pus. If the appendix were removed by operation, the patient was saved all future trouble of this kind. The thing that he most feared in connection with appendicitis was the allowing of a case which ought to be operated on early, to go on too long without interference.

DR. C. A. LEALE narrated a case of abscess in which he had operated successfully under discouraging circumstances. He thought the use of the exploring needle could not be too emphatically condemned. In addition to other evils, it was apt to increase the peristaltic action of the intestines, and sepsis was liable to result. Surgeons sometimes said it was too late to operate, but he thought it was never too late to operate. As an illustration he referred to a case which occurred many years ago, in which Dr. Willard Parker and several other surgeons were called in consultation, and the result of the consultation was that an operation would be hopeless, and should not therefore be attempted. Afterwards the family sent for Dr. Parker alone, and asked him to operate. He did so, and as a result of this procedure the patient was alive to-day. If there was one chance in a hundred for the patient, he thought that he ought to be offered this chance.

DR. ÖBERNDORFER, having asked Dr. McBurney upon what signs he would rely in deciding the question of whether to operate or not, the latter replied that this was a matter in regard to which it was practically impossible as yet to lay down any definite rules. In general he would say, however, that if he found a patient who had pain in the right iliac region, but with no fever, vomiting or special interference with any function, and who looked well and was able to move about in bed with comparative ease, he would feel satisfied to let such a patient go on to the next day. If, however, the next morning he found that the tenderness had increased to an exquisite degree, that there was inability to move the part, that there was a well-defined point of extreme sensitiveness, and that the temperature was over 100°, he said he should tell such a patient that by an operation for the removal of the cause of his trouble, he could almost certainly cure him, and prevent the recurrence of anything of the kind in the future; while, if the operation was not done, he would be likely to die of septic peritonitis,

and if this did not occur an abscess would probably result, and he would be liable to dangerous relapses from time to time.

There were other cases which were very grave from the first. There would naturally be no tumor thus early, but extraordinary tension of the abdominal muscles on the right side, would be found. There would be rapidly increasing tenderness and marked constitutional disturbance. Such cases he would not leave a single hour unoperated on. Dr. McBurney said he laid considerable stress on the amount of constitutional disturbance. The temperature, however, was often not at all high, and in some of the worst cases it was not above normal.

DR. SMITH, in closing the discussion, spoke first of the difficulty of making an early diagnosis in many instances. The seat of harm, as Dr. Janeway had remarked, was often deceptive, and he had met with one case in which it was principally located in the upper part of the lumbar region, and another where the pain was at the site of the right kidney. As to the desirability of calling in a surgeon on the first day, he was not entirely prepared to accept Dr. McBurney's opinion, and very few families, he thought, would be willing to consent to such a course. The surgeon would be almost sure to advise laparotomy, and when an authority so eminent as Hencoe had made the statement that when the opium and ice-bag treatment was begun early enough, recovery ensued in almost all cases, he did not think that such a measure was called for as a rule in the early stages.

INOCULATIONS FOR PULMONARY TUBERCULOSIS.

DR. H. J. BOLDT made a few remarks on this subject, his object being to call attention to the work in this direction, which had been accomplished by a member elect of this Association, Dr. J. Hilgard Tyndale. For many years he had been pursuing experimental investigations upon the subject, and for the past year and a half he had met with excellent results from the inoculation of bovine virus diluted in a saline solution. Among the results noted in tuberculous patients were the following: The bacilli decreased in the sputa, hectic disappeared, cough diminished very rapidly, the weight increased and the health generally improved. As in the case of Koch's inoculations, the constitutional symptoms after the inoculation were quite severe. Dr. Boldt felt sure that Dr. Tyndale would be very glad to explain his process, and to exhibit some of his cases to any members of the Association who might be interested in the matter.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.¹

SECOND DAY.—AFTERNOON SESSION.

DR. W. O. ROBERTS, of Louisville, read a paper on REMOVAL OF STONE FROM FEMALE BLADDER THROUGH THE URETHRA, WITH CASES.

This paper was devoted simply to his individual experience in the extraction through the urethra of stone from the bladder of the female. The cases thus treated were six in number; the ages of the patients ranged from fifteen to fifty-six years. Four were married, but

¹ Third Annual Meeting, held at Atlanta, Ga., November 11-13, 1890. Concluded from page 536 of the Journal.

only two had borne children. The stones were phosphatic in four cases, uric acid in one, and an incrusted, fringed body in another. In one, a very hysterical patient, the stone had for its nucleus a piece of soft wood. In one the patient had a vesico-vaginal fistula, which had been closed by an operation some months prior to the occurrence of the symptoms of stone. In another the bladder had been opened by a surgeon in doing an ovariotomy upon the patient a year before the stone was discovered.

In four of the cases the stones were single, in one there were two, and in one nine. In this case the patient had passed at various times a number of small stones, from two to seven at a given micturition. These stones varied in size from that of a grain of wheat to a grain of coffee. In two years she had collected 184 stones, a number not representing all she had passed.

The extraction was done in every case under chloroform, the patient being profoundly anesthetized. The urethral dilatation was begun with forceps, and completed by means of the fingers. The little finger being first introduced, the ring finger next, and finally the index finger. The fingers were well oiled. In Case I the stone was found to be almost an inch and a half in diameter. In Case II the stone was found in the urethra, and proved to be a piece of soft wood heavily incrusted with urinary salts. In Case III the stone was spherical, and had a diameter of about one-half inch. In Case IV the stone was ovoid, its long diameter being an inch, the shorter three-fourths of an inch. In Case V there were nine stones, the smallest measuring circumambiently two and one-fourth inches; weight, eighty-four grains.

Dr. WILLIAM PERRIN NICOLSON, of Atlanta, Ga., presented a paper entitled

WET ANTISEPTIC DRESSINGS IN INJURIES OF THE HAND.

The especial point that was urged in the paper was the doctrine formulated by Verneuil—never to use a scalpel in a hand injury. The old teaching, that when a finger was crushed, you should go far enough behind the injury to secure a sound flap, and amputate, was pernicious in the extreme, and had cost thousands of fingers that would have been restored to usefulness. Only such parts as were actually destroyed and pulped should be removed, and all the tissues to come away could be amputated with the scissors. Projecting pieces of bone could be removed with pliers, until reduced to the level of the fleshy parts. In compound fractures the parts should be coapted as well as possible, and the line of separation be determined by nature, and under strict antiseptic dressings. Such a slough was harmless. Another point to which attention was forcibly called was the utilization of blood-clot in filling up ragged injuries, and by its substitution the restoration of lost parts. When a finger was crushed off, the end should be trimmed with scissors, and the clot utilized in building up a tissue over the bone. In reference to dressings Dr. Nicolson said that he had tried almost all varieties, and had finally obtained the most satisfactory results from keeping the parts constantly bathed in a non-poisonous antiseptic solution.

In dealing with these wounds they were first cleansed as well as possible, and then bathed in a sublimate solution. Over all wounds a piece of aseptic rubber tissue or oiled silk was placed, then iodoform and sub-

lime gauze, and finally over all a covering of rubber tissue, into which, at some convenient point, a small opening was made. The patient was then given a bottle of antiseptic solution, to be carried in his pocket if moving about, and instructed to pour, at frequent intervals, enough into this opening to saturate the dressings. He uses almost exclusively listerine, combined with a small amount of carbolic acid, in the proportion of half an ounce of the former and half a drachm of the latter, in a six-ounce mixture. If there was much pain, a small amount of aqueous extract of opium was added. These dressings were not disturbed until the third day, when they were removed under strict antisepsis, to preserve the integrity of the blood-clot. Wet dressings were substituted at the end of about a week by the ordinary antiseptic dressings, kept moist by external covering of rubber tissue. Should sloughing occur, it is kept wet for a longer time with the antiseptic. Under this treatment pain was reduced to the minimum. Suppuration never occurred, and the separation of sloughs was facilitated by the warm moisture.

Dr. J. T. WILSON, of Sherman, Tex., read a paper on

UTERINE MOLES AND THEIR TREATMENT.

In the few cases that had come under his observation, they had been more troublesome and elicited more anxiety than most writers indicate they should, and the hemorrhage in some of the cases was alarming; then, too, there were some points noticed in his cases which he failed to find described in text-books.

He had never met with a case that was lying loose in the uterus, but all were more or less adherent to its walls and most of them to the posterior wall. They all required after-treatment, because all except one case had endometritis and endocervicitis; two had severe cervical lacerations and erosions; most of them had a greater flow than usual at the subsequent menstrual periods until the inflammatory condition was relieved; none of them were in perfect health; none had any history of a cancerous cachexia, nor of syphilitic taint; one was tuberculous. His experience had taught him to believe that if these cases do not receive treatment at a proper time there are two grave dangers to be apprehended, namely, hemorrhage and septic poisoning.

In the treatment, if the cervix is sufficiently dilated and hemorrhage troublesome, the mass should be promptly removed. If this cannot be done, a hot, antiseptic vaginal douche should be given, followed by a careful and efficient tampon, with the internal administration of ergot and anodynes, if required, directing quiet, rest and simple diet. In from twelve to sixteen hours the tampon should be removed, and the foreign body extracted as completely as practicable; this will require a good stout pair of forceps. He had used the ordinary dressing forceps and placental forceps for the purpose. An excellent instrument in some cases is Emmet's curette forceps. The surface should be well curetted with a wire curette, the uterus thoroughly washed out with a hot solution of bichloride of mercury and carbolic acid or tincture of iodine well applied to the surface. If much bleeding ensues—and this is not usual—the application of persulphate or perchloride of iron gives good results. In from three to five days the uterus may need curetting again and another intra-uterine douche; then the application of iodine about twice a week.

THIRD DAY.—MORNING SESSION.

DR. G. FRANK LYDSTON, of Chicago, read a very elaborate paper entitled

A REVIEW OF THE TREATMENT OF VARICOCELE,
WITH CASES.

For practical purposes the various methods may be divided into (1) acupressure, (2) subcutaneous deligation, (3) open deligation, (4) deligation with resection of veins, (5) deligation with resection of scrotum, (6) resection of scrotum.

The employment of acupressure was an evidence of a lack of faith in modern antisepsis. It reminded him of the Dutchman's method of cutting off his dog's tail, an inch at a time, so that it would not hurt him so much. Gradual obliteration of veins had all the dangers of immediate deligation in a marked degree and none of its advantages. There is little choice between deligation without disturbance of the veins and deligation with resection of the veins, excepting the remotely greater danger of sepsis in the latter. Gould's method of division by cautery he believes to be the most dangerous operation yet devised. The dangers of the open method are, in a less degree, those of subcutaneous deligation. If open ligation be determined upon, the operation should be done as high up as possible in the straight portion of the veins and a single ligature applied to the vein. Deligation with resection of the scrotum he considers to be the ideal operation, in the majority of cases which require surgical interference. His plan is as follows: An incision is made parallel with the spermatic cord just below the external ring. This incision should be about one inch in length. The cord is hooked out with aneurism needle, the veins separated and tied, the ligature is cut through and the cord dropped. Sutures and antiseptic dressings complete the operation. The scrotum is now amputated by the improved Henry operation. Resection of the scrotum he considers the simplest and safest operation for varicoceles of moderate size. In the more marked forms the affection invariably recurs to a greater or less extent. He does not, therefore, consider the so-called Henry operation a radical cure in the true sense of the word. The author reported a large number of cases operated upon by various methods. The author had noticed hydrocele as a result of subcutaneous deligation in two cases. The doctor reported one very interesting case in which the scrotum was continually bathed in bloody perspiration and in which the seminal ejaculations were heavily tinged with blood.

DR. GEORGE A. BAXTER, of Chattanooga, read a paper on

SILICATE OF SODA, SOME NEW METHODS OF USE
IN SURGERY,

in which he said the jacket of baked silicate of soda which he would present to the Association possessed all the qualities to be found in the plaster, firmness and support, and weighs only one pound and six ounces. It is neater in appearance and finish, can be perforated like leather for ventilation, which plaster cannot. It is even lighter than leather without its costly process of construction, and has the same advantage over the woven-wire jacket with the additional advantage over both these latter and all others of this class, that it can be constructed by any surgeon at any time or in any place. Dr. Baxter suspends his patients and puts

roughly a plaster jacket around them, and cuts this as soon as it has hardened enough to retain its shape, thereby lessening materially the time of suspension, binds the cut edges together where it has been cut down directly in front, with cords, and then places a core of paper in the centre. This paper core is used for two reasons, to lighten the cast and take as little plaster as possible, and to dry it the more readily by heating the inside. This done, the plaster is poured around the core and inside the cast, which gives a mould of the body in extension and counter-extension, exact in every respect. Around this is made the silicate jacket after the manner of the plaster roller bandage, weaving one-half inch metal strips in the meshes of the bandage at a distance of four inches apart around the whole cast, an inside lining of a knit shirt having been first placed over the cast. The whole is then placed over a coal oil stove, and allowed to dry, which it does in from one-half to two hours. This process of heating not only dries the silicate but bakes it, and renders it impervious to the action of water or perspiration, and gives it sufficient strength to allow of its being perforated for ventilation. It is now cut from the mold with a straight incision down the centre, two pieces of leather, to which button hooks or eyelets have been previously attached, sewed up and down the front on each side, then the whole can be laced up solid or loosened or taken off at will.

DR. EDWIN RICKETTS, of Cincinnati, O., contributed a paper entitled

SURGERY OF THE GALL-BLADDER,

in which he said, to Langenback was due the credit of totally extirpating the gall-bladder, and to J. Marion Sims we owed a debt of gratitude for establishing the operation of cholecystotomy.

Dr. Ricketts reported seven cases of gall-stones.

CASE I. Mrs. —, aged thirty-eight, married, consulted him in 1880 for a tumor in her right side in the region of the gall-bladder. Said she had passed by the bowel, following a severe attack of hepatic colic, a number of gall stones. She was emaciated and suffered from what she claimed was neuralgia of the stomach. She was slightly jaundiced and bowels constipated. Upon examination of the abdomen the tumor was well-marked and nodulated, above which was the liver surface smooth. He made the diagnosis of gall-stone and urged an operation. The patient's physician, however, urged the expectant plan of treatment which was accepted by the patient. She then went to the country and in less than three months had an attack of hepatic colic, followed by peritonitis, dying inside of three days.

CASE III. Ellen —, colored, aged thirty, consulted him for a markedly distended gall-bladder which made its appearance after a hard day's work over the wash tub. She had been sick for ten days with fever, temperature reaching 103°, rapid pulse, clayish stools, with occasional attacks of hepatic colic, though not severe. He opened the gall-bladder, turning out one pint of fluid which consisted of bile, mucus and pus, stitching the gall-bladder up against the peritoneum. After three days catarrhal plugs were washed out of the common duct through the abdominal incision in which had been deposited a glass drainage-tube. The fistulous tract is still open, discharging periodically, but with no bad results to the patient.

In Case IV, a diagnosis of cancer of the liver was

made by the attending physician. The gall-bladder was opened and the stone turned out and weighed 128 grains, and the common duct was filled with catarrhal deposits.

CASE V. After incising the gall-bladder there escaped first about one drachm of pus, after which Dr. Rickette turned out twenty-eight stones. A diagnosis of cancer of the liver in this case was made by the attending physicians.

THIRD DAY.—AFTERNOON SESSION.

DR. W. HAMPTON CALDWELL, of Lexington, Ky., read a paper on

RECTAL MEDICATION,

in which he said that several years ago he was convinced of the utility and safety of rectal administration of medicine, and had ever since regarded it as a most important plan of treatment. Since we accept the theory of the local origin or manifestation of the majority of diseases, this idea of rectal administration of medicine, was more readily accepted as scientific in its applications than at any time heretofore. The rectal suppository, consisting of coco butter, incorporated with the various therapeutical agents, affords the most efficient and pleasant mode of administration in our possession. Rectal suppositories satisfy all requirements as a local or constitutional remedy; they are neat, convenient, and in almost every instance preferred by the patient to the administration of the same drug by the mouth. In the administration of anodynes, it is certainly a superior method of administration to all others, as the sensitive stomach is no longer a barrier or excuse in the administration of even the most disagreeable medical agent, for we well know that in many instances that this organ is either tolerant to opiates or the patient has an invincible objection to taking them, the impossibilities of the rectal administration being thrown off, is one great advantage over all other methods of administration. The effects of rectal medication embrace a wide range of action, including anodyne, antiseptic, alterant and astringent. In severe pain they certainly afford the best and safest source by which our patient's suffering can be relieved, as the action upon the rectal surface of a diffusible anodyne is quite rapid, and produces an effect about as soon as when administered by the stomach. In all inflammatory or painful affections of the abdominal or pelvic organs, this plan of administration has succeeded better than all others with the author.

DR. THAD. A. REAMY, of Cincinnati, Ohio, reported a case in which he removed a stone weighing 365 grains, by vaginal cystotomy, from the bladder of a child six years of age, with injury of the ureter. Operations done for closing the bladder were difficult, but ultimately successful. He exhibited the stone, and made some comments on the case.

He felt after the stone was removed that it would have been better to have made supra-pubic cystotomy. Had he known the size of the stone, he would probably have done that operation. But in view of the fact that it was partly encysted, that the bladder walls were much inflamed and thickened; also the fact that in the child the parietal peritoneum dips much lower down in front of the bladder than in the adult, it became a serious question whether this course would have been better than the one pursued.

It was not clear whether the ureter was damaged

in the removal of the stone, or was exposed by the sloughing which occurred much later on. He was inclined to favor the former view; and that the discharge of urine into the tissues of the bladder wall in the line of suture, was to no small degree responsible for some of the failures in closing the bladder. However, until the last operation the most critical examination failed to discover the ureter.

Though Parvin, Campbell and others had turned an exposed ureter into the bladder, the speaker was not aware that it had heretofore been done in a subject so young. The vagina being so small rendered the manipulation difficult in the extreme.

DR. JAMES A. GOGGANS, of Alexandria City, Alabama, read a paper on

THE SURGICAL TREATMENT OF EMPYEMA.

He said during the last eighteen months he had treated six cases of empyema which developed in the wake of pneumonia, all of which had made perfect recoveries. These patients varied in age from three to thirty-five years.

Surgical treatment was the one which had been the most successfully employed. Spontaneous cures, he said, were rare—so rare that surgical interference was the rule. There were many methods of operating for the removal of pus from the pleural cavity, but they may be classified under two general headings: (1) The closed method, which consists in removing the pus by simple puncture with some kind of trocar or modern aspirator and allowing the puncture to heal at once. (2) The open method, which consists in making an incision more or less free with the introduction of some kind of drainage-tubes to maintain the perfect evacuation of the fluid, and admit of medicated washings, and to promote free ingress and egress of air that has been passed through an antiseptic dressing. The surgical treatment then being an absolute necessity, we cannot overestimate the importance of making the diagnosis certain by resorting to exploratory puncture with the hypodermic syringe. We can assure the patient and friends that no evil results can come from this procedure, and that the prognosis positively depends upon this means of settling the diagnosis.

Officers for 1891: President, Dr. L. S. McMurtry, Louisville, Ky.; First Vice-President, Dr. McF. Gaston, Atlanta, Ga.; Second Vice-President, Dr. J. T. Wilson, Sherman, Texas; Secretary, Dr. W. E. B. Davis, Birmingham, Ala.; Treasurer, Dr. Hardin P. Cochrane, Birmingham, Ala.

Place of meeting, Richmond, Virginia, second Tuesday in November, 1891.

THE NEW YORK NEUROLOGICAL SOCIETY.

MEETING of November 4, 1890, the President, DR. L. C. GRAY, in the chair.

ASTASIA AND ABASIA.

A patient was presented by DR. G. M. HAMMOND exhibiting the symptoms laid down as characteristic of this unusual affection. The patient, a young woman, had never been the subject of any serious illness excepting Pott's disease, which had come on during childhood. Over a year ago, the speaker had attended her through an attack of nervous prostra-

tion. During her illness she had suffered from aphonia; the difficulty in standing and walking was not discovered until she was able to leave her bed. On regaining her strength sufficiently to walk around, it was observed that she invariably walked by first advancing the left leg and then drawing the right one up to it. When she attempted to walk naturally, immediately that the right foot touched the ground her body would revolve rapidly to the right, when after making a revolution and a half she would sink to the floor. Physical examination of the limbs revealed nothing abnormal. The patient while seated or lying down could move both legs normally, with the right leg, however, more mental effort was required to make the movements. The patellar tendon reflex was normal on both sides. There was no ankle clonus, no anesthesia, hyperesthesia or any other disorder of sensibility in any part of the body with the exception of slight loss of the muscular sense in the right leg. The electrical reactions, both qualitative and quantitative, were normal. The field of vision and the color-sense were found normal. The senses of hearing, touch, pain and temperature were tested without anything abnormal being discovered. There was some resistance to passive flexion and extension of the right leg.

Those symptoms then of difficulty in standing and of inco-ordination and ataxia of movement for the act of walking, but not for other muscular acts, corresponded accurately to that condition described by Bloeg under the title of "astasia and abasia." Bloeg was of the opinion that astasia and abasia was a condition pathologically similar to agraphia. The speaker did not see anything in these cases to substantiate this view. People afflicted with the disease under consideration could make the motions of walking perfectly well if they were allowed to lie down, but it had never been claimed that an individual suffering from agraphia could write any better in one position than he could in another. The condition, it seemed to the speaker, depended upon a loss of the power of adjusting muscular contractions so as to retain an exact equipoise or equilibrium. This was, of course, a defect of the muscular sense. There was no known tract in the spinal cord, disease of which, would be followed by these symptoms. Bloeg had attempted to make a distinct neurosis of this class of cases, and had claimed that a differential diagnosis between hysteria and astasia and abasia could readily be made. In the latter disease there were no hysterical stigmata, he claimed, no constant paralyses or constant contractures. But the latter were by no means characteristic of all cases of hysteria, and when it was considered that every case of astasia or abasia had been accompanied by some other symptom or symptoms, such as, for example, hyperesthesia, anesthesia, aphonia, contraction of the visual field and temporary color-blindness, all of which frequently accompanied hysteria, and since the disease under consideration was purely functional in character, no gross macroscopical or microscopical lesion ever having been discovered in them, it would not be difficult to believe that astasia and abasia was merely an uncommon type of an hysterical affection.

Dr. C. L. DANA said that if it were possible to exclude any organic trouble as a factor in the case there seemed nothing left but to give the condition the name which Dr. Hammond had done. It was by

no means that this so-called disease deserved a separate clinical position, and they were by no means aware of all the vagaries of the trouble. He thought that the diagnosis might be accepted as a provisionally correct one.

DR. LOUISE F. BRYSON said she had recently been reading a case reported in a French journal of what was known as "left- and right-sided disease," in which the patient always had to walk to the right. Physiologically the muscles on the right side were stronger than those of the left, and perhaps the case was one of exaggerated function of the muscles of the right side.

DR. G. W. JACOBY said that in a recent number of the *Berliner klinische Wochenschrift*, Dr. Binswanger had stated his belief that the whole trouble resulted from a psychical condition as the same phenomena were found in other mental states. He had not seen a case exactly like this but others which reminded him very much of it. He was inclined to consider the condition, as a psychic manifestation. Women after long confinement in bed would sometimes when attempting to walk, find themselves too weak to do so and immediately conclude that they had lost the power. While lying down or sitting they would have entire control of their limbs, but when they essayed walking then came the fear. It was a psychic disturbance of equilibrium. He thought that Binswanger had done as much to clear away doubt in this class of cases as others had done to confuse.

THE PRESIDENT said he had never seen anything like this case. The cases of hysterical paraparesis which he had seen were typical forms of paraplegia. He had also read the two cases described by Russel Reynolds who had called them "paralysis of idea." He did not think it was well to designate this case as one of hysteria on account of the presence of some spots of anesthesia, because it had been shown that this occurred in a great many different nervous disorders, both functional and organic. It seemed better to accept the case as a clinical entity, and hold any opinion in reserve as to the cause of the manifestations.

SYRINGOMYELIA?

DR. S. E. SHAW presented a patient to the society suffering with, as he had diagnosed, syringomyelia. The patient, a single woman, thirty years of age, had always good health until about six years ago, when a weakness of her left hand was noticed. This condition had steadily increased up to the present time. For the past three years she had had a constant aching in the left arm, shoulder, and side of the neck, and lately, on that side of the head. For two years there had been a numb spot on the inner side of the left arm. She had constant sensations of burning on the left side of the face and neck, with flashes of heat and cold. There was a small spot on the back of the head where this burning sensation was greater than anywhere else. She presented an atrophy of the small muscles of the left hand which had been in existence for six years and was gradually growing worse. There was also slight atrophy in all the muscles of the arm, shoulder and face of the left side. In the area of the numb spot the tactile sensibility was impaired. The thermic sense was greatly diminished over the entire left side, and in the right lower extremity as well. The reflexes were exaggerated. While the examination of the patient had not been as careful as it might have

been, the speaker thought that it was sufficient for the purpose of making a diagnosis.

DR. B. SACHS thought the personal equation was a powerful factor in this case. It certainly had been so that evening. The case did not seem to him to be one of syringomyelia. The atrophy was not marked enough, particularly about the shoulder. The sensory symptoms were not so distinct as in a typical case. So far as he could judge the case seemed one of amyotrophic lateral sclerosis, though further examination or observation might lead him to a different conclusion.

DR. A. M. STARR said that there were several features about this case which reminded him of one which had come under his observation. He had not brought these points out because he did not know that they belonged to syringomyelia. One of these peculiarities was the noise made in the throat, a sound as of alarm. This had been present in his patient, who was by no means an hysterical girl. He had regarded it as a muscular contraction of the larynx during inspiration. His patient would make the noise whether she was quietly conversing in his office or was before a class of students. This feature was to be taken into consideration. He thought that the stationary condition of the atrophy in this case indicated the existence of syringomyelia rather than that of amyotrophic lateral sclerosis. He had demonstrated pretty conclusively the changes in pain-sense by sticking the point of a needle in the patient's arm without her knowing it. There was no mistake about this, for he had put the needle in a quarter of an inch. Then there was the history of a loss of temperature sense. The patient had noticed in putting her hands in hot water, that there was a difference between the two sides. Therefore, bearing in mind the non-progressive condition of the atrophy, the existence of changes in the temperature and pain senses, he supposed they were warranted in making a diagnosis of syringomyelia at the present date.

DR. SACHS thought the question depended upon the actual condition of the sensory derangements in this case, and of course the examination had been but sensory.

DR. W. R. BIRDSALL thought that here the results of examination were so at variance it would be hardly worth while to attempt any expression of opinion in the way of diagnosis. It had been his impression from the description of cases of syringomyelia of which he had read, and in which an autopsy had been held as confirmatory evidence, that the histories had given the pain and temperature sense as having been both affected. He should say that the case before them was at least typical in this respect. As to this disease it was a remarkable fact that, during the past year, of the cases in which syringomyelia had been diagnosed during life there was no autopsy, while in those autopsies which had revealed the existence of the disease, its presence had not been suspected during life.

DR. DANA said that last spring he had a patient in his hospital service who had presented many similar symptoms. There had been atrophy in the muscles supplied by the ulnar nerve and in the small muscles of the hand. There was also anesthesia involving the temperature and pain senses. The atrophy had slightly involved the opposite side. There was also a belt of anesthesia over the lower portion of the trunk and extending to the thighs. There was no disturbance to the sensory functions. The girl had gradually developed symptoms of bulbar paralysis without any sen-

sory symptoms accompanying. He had been obliged to regard this as a typical case of progressive muscular atrophy. He had seen a case of this disease in which the sensory symptoms were present. If the symptoms of bulbar paralysis were developed in the case before them, it would, he thought, turn out to be a case of progressive muscular atrophy. As to amyotrophic lateral sclerosis, it was simply another name for the same disease.

The PRESIDENT said the only way to make a diagnosis of syringomyelia was to make an autopsy. The value of the loss of thermic sense in a patient as a diagnostic point, was somewhat vitiated by the fact that the relations of this sense to other organic spinal diseases were unknown. He thought they would be unable to establish the fact satisfactorily that this was a case of syringomyelia until the woman died.

CASE OF SPINA BIFIDA WITH SUPPURATIVE MENINGITIS AND EPENDYMITIS OF BACTERIAL ORIGIN.

DR. L. E. HOLT and DR. I. VANGIESON reported a case of spina bifida in an infant, in which the entrance of bacteria into the wall of the spinal sac, had apparently caused a suppurative spinal meningitis and ependymitis. The child had died three weeks after birth, without having any very serious symptoms, beyond those of paraplegia, marked irritability and failing nutrition, there were no physical signs of hydrocephalus. The centre of the spinal sac had the appearance of a granulating surface and was covered with a sero-purulent discharge. At the autopsy the ventricles of the brain were found to be greatly dilated and to contain three ounces and a half of thin pus. The pons and cerebellum were partially covered with a yellowish exudation which also coated a portion of the spinal cord and the whole of the interior of the spinal sac. The viscera were normal. Microscopical examination had shown the presence of great numbers of small cocci in chains, in the wall of the spinal sac and in its internal necrotic fibrinous coating; in the central canal and meninges of the spinal cord; in the exudation on the surface of the cord; in the exudation on the pons and cerebellum, and finally in the walls of the lateral ventricles. Although the cocci were not identified by cultures, their grouping and division and a careful comparison of them with other known species of micrococci seemed to indicate that they were streptococci pyogenes. The authors called attention to the fact that the skin of the spinal sac in spina bifida cases, was often quite thin, and had a raw exposed central surface which would permit of the entrance of pyogenic bacteria into the wall of the sac, and this would explain the occurrence of the complicating purulent and fatal lesions of the central nervous systems. Judging from their own case, the writers also thought that in operative procedures on the sac, bacteria had been introduced when purulent central neural inflammation had occurred afterwards, and advised the most careful antisepsis in dressing the wall of the sac, especially when the central cicatrix had an exposed surface.

DR. L. E. HOLT said he had seen one other of these cases of hydrocephalus in which the disease had existed without any symptoms during life. He thought there were probably a great many more than was usually supposed. He had been surprised to find that the ventricles contained several ounces of fluid. He had seen several cases of basilar meningitis in which only a moderate amount of distention of the ventricles was

found. In two of these cases the entire contents of the lateral ventricles would not have exceeded an ounce.

CEREBRAL COMPRESSION.

DR. E. D. FISHER read a paper with this title. He said that while he had nothing new to present, he thought that he could settle definitely the question of the influence of compression on the cerebral mass within the skull, and whether the cerebral substance was, *per se*, compressible without interference with its capillary circulation or function. Bergmann and Adam Knoiez (?) hold the views that the brain substance was uncompressible, the only conditions of change possible in the cerebral volume being those dependent on the displacement or variation in the cerebro-spinal fluid or the cerebral circulation, these standing in converse relation to each other. The question of the compressibility of the brain depended on which of the elements comprising the brain was most liable to compression, as the blood-pressure was higher than that of the cerebral fluids it was possible that the tissue fluids were first affected. Much depended also as to whether we regarded the liquor cerebri as a secretion or as a transudation from the blood-vessels, as in the latter case we would have to consider arterial tension as a very important factor in cerebral compression. The vascular centre was not only situated within the medulla but probably also within the brain, that is, the corpus striatum or optic thalamus. The brain possessed a mechanism of its own for increasing its blood-supply independent of increased cardiac action. Experimentally it had been proven that cold acted deeply within the brain. Its good effect was very marked in the headaches of the anemics, the ice-bag being an efficient remedy. The cold probably acted by increasing the blood-current rapidity in the capillaries and by causing spastic contraction of the arteries. In these cases the amount of the blood passed through the brain by increasing the rapidity made up in the quantity for the quality, thereby maintaining the nutrition.

The extent of a cerebral hemorrhage depended on the arterial pressure or tension, the intra-cerebral pressure, and also on the resistance of the brain-substance, the latter, of course, depending on the site of the hemorrhage. By spastic contraction of the arteries of the brain we really had active hyperemia, the decreased volume of skull contents causing increased capillary circulation. By paralytic dilatation of the arteries we have passive hyperemia, which was, in fact, anemia, the blood being no longer in a proper state to carry on the nutrition of the brain as the increased volume of the brain caused retardation of the capillary circulation and probably also interfered with the venous circulation. The speaker's experiments had been made by exposing the pia mater and observing the changes made in the blood-vessels. Extension of the sciatic nerve produced increased volume of the brain. Compression of the carotids caused marked loss of volume. Asphyxia caused expansion of the brain. Chloral caused anemia of the brain with marked contraction. Chloroform contracted, ether at first contracting and subsequently expanding the brain. Strychnia caused marked expansion, as did digitalis and small doses of alcohol. Caffeine and the acids caused expansion while the alkalies produced the reverse result. Drawing from his experiments the speaker concluded that the blood-supply of the brain

varied directly with the blood-pressure in the systemic arteries and that the extensibility of the walls of the cerebral vessels allowed of great variation in calibre. The vaso-constrictor centres were excited directly by disturbance with the nutrition of the nervous system, as in anemia, asphyxia and so forth. Finally that the essential product of cerebral metabolism contained in the lymph spaces, bathed the walls of the arterioles and could cause variations in the calibre of the vessels, that this mechanism reacted on the brain and that by this means the vascular supply could be varied locally according to local varieties of functional activity.

DR. JACOBI said that the demonstration that the nerve-tissue could be compressed in its molecules and anatomical elements had been claimed by one author. Another had maintained the non-compressibility of these elements, but had further stated that the effect of hemorrhage was due to anemia of the brain. This was as a theory substantiated by comparing the clinical symptoms in such hemorrhage with the symptoms caused by the injection of lycopodium powder into the cerebral vessels and producing thrombi. He then referred to certain experiments which had demonstrated the displacement of the cerebral spinal fluid. In one case in which rice was injected into the aqueduct of Sylvius was found to be ruptured and the lateral ventricles flattened together. This experimenter had inferred that the very suddenness with which the compression was exercised had caused the violent displacement of the cerebro-spinal fluid and consequent rupture. The same observer had also estimated very minutely the amount required to oppose the arterial tension and had claimed that if, at any time, an effusion took place on the surface of the brain to entirely balance this, death must instantly result. Dr. Fisher had pointed out the necessity of maintaining arterial tension rather than depressing it, upon this very theory. It had been suggested that in cerebral hemorrhage the head should be hung down to mechanically send blood to the head and thus oppose the effusion which was taking place from the ruptured vessels. He did not know whether this had ever been put into practice.

— The New York State Civil Service Commission recently adopted a resolution, which has been approved by the Governor, changing the classification of the positions of superintendents and assistant physicians in the eight State hospitals from the non-competitive to the competitive schedule. In accordance with this resolution the following qualifications will be required of all physicians who wish to enter the medical service in State hospitals: A physician seeking the place of junior assistant physician must be a graduate of a legally incorporated medical college and must have had at least one year's experience in a general hospital or three years' experience in the general practice of medicine; promotions may be made between the grades of junior and first assistant physicians without examination; candidates for the place of first assistant physician must be at least twenty-five years of age, and must have had at least three years' actual experience in a State or city hospital for the insane; applicants for the place of superintendent must be at least thirty years old and must have had at least five years' experience in the profession in a State or city hospital for the insane, and once having passed an examination for superintendency the candidate shall be eligible for appointment for at least three years.

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One of the most prominent of these reports, in point of general interest, is the account of a tour of duty by Assistant-Surgeon Brechemin with the Illinois State National Guard in 1889. Captain Brechemin spent over three weeks at the State Encampment, and met four State regiments. The camp-ground comprises one hundred and sixty acres about one and three-quarters miles from the State-house at Springfield, and possesses every advantage which could possibly be desired in the matter of shade, ample water-supply, opportunities for bathing and natural drainage. The ration furnished is a generous one. In addition to the regular army ration the State issues lard, fresh fish, eggs, butter, milk, baking powder, prunes, extracts of lemon and vanilla, onions, fresh beans, fresh tomatoes, cabbage, canned corn, tomatoes and peaches. The average cost of the ration is about thirty-three cents, and caterers are apparently unknown.

As at present conducted, the medical staff of a regiment is appointed by its colonel — a faulty method, justly condemned by the report, and one which we believe did not prevail in Illinois during the late rebellion, though in other States its shortcomings were abundantly shown.

One of the first defects noticed was the ignorance of company officers of their duties in relation to the medical department. Apparently no instruction was given the men as to the meaning of surgeon's call. In many cases men were excused by commanders on account of sickness and reported to the post-adjudant as sick on the company's morning report without being sent to the surgeon. First sergeants were not instructed, as

a rule, to conduct the sick of their companies to the hospital at surgeon's call.

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Soon after the arrival at camp a detail of one man from each company was made for the position of private of the hospital corps. One hour was spent each morning in litter and ambulance drills, instruction in first aid to the wounded, improvised methods of carrying wounded men, etc. The squads with litter, were detailed in turn to attend the different regimental formations, drills, guard-mounting and dress-parade. invariably the privates of the hospital corps showed zeal and intelligence in learning the drill; its practical value was appreciated by officers and men, and illustrations of its usefulness were of frequent occurrence. Captain Brechemin speaks with satisfaction of the quickness and aptness of the men; but he found the litters faulty and flimsy in construction, and the State owns no ambulance. He recommends a rigid inspection by the brigade surgeons of the medical department of each regiment belonging to his brigade during its encampment, and that a full and detailed report of each inspection should be submitted to the Surgeon-General so that any deficiencies noted may be acted on by him.

This report is another example of the growing desire to assimilate the national guard and the regular army, and it shows the defects and advantages of the medical corps of the militia of one of the important States. It is curious to note that certain defects in the medical department which existed in most State organizations in the *ante-bellum* days, and which were the cause not only of discomfort but of loss of life, are still perpetuated. The request for the detail of a medical officer from the army — no such detail would have been made without a request — shows a most laudable desire to produce during times of peace a medical department which shall be prepared for actual service. Doubtless such a detail would be of service in other States beside Illinois.

PROFESSOR KOCH'S TREATMENT OF TUBERCULOSIS.

DURING the past week very little new, authentic information has been received on the subject of Koch's method of treating tuberculosis. It is evident that there is little hope of a publication of the process of preparing the fluid for some time to come, and the clinical reports of cases treated are still very incomplete. There has been little important information on the subject that is not contained in the article by Koch in the *Deutsche Medicinische Wochenschrift* of November 14th.

The therapeutic action of the fluid seems to be different from anything which has, up to this time, been

employed in medicine. It does not directly kill the bacilli, neither does it act as a preventive inoculation after the manner of cow-pox vaccination, but apparently tissue containing tubercle bacilli becomes violently inflamed, and finally suppurates, and perhaps separates from the healthy underlying tissue, carrying the bacilli, still alive, with it. This induced inflammation is attended with constitutional disturbance more or less dependent upon the amount of tissue involved, and may be sufficient to cause death, especially where large portions of the lungs are affected. Haemoptysis may occur, or the lung may swell to the exclusion of air. There seems to be no reason to believe that cavities are favorably influenced except by the removal of the bacilli. It is remarkable that the constitutional symptoms are almost identical in character with those met with in abscess formation.

The excitement in Berlin is intense. The city is full of physicians trying to find out something, and trying to get a specimen of the so-called lymph. Although about a thousand cases are under treatment in the Berlin hospitals, the amount of the fluid obtainable seems to be very small, and very little has left the city.

The material used by Professor Koch in his inoculations,¹ is a viscid fluid, the color of a dilute solution of iodine, of a slightly syrupy consistence. It is prepared for use by adding one hundred grammes of sterilized water, the maximum dose of injection being one gramme. No reaction appears locally, but at the

Should the lymph continue in demand, this is a question on which there may be differences of opinion as well as numerous rumors, and we shall have occasion to refer to it again.

INOCULATION FOR DIPHTHERIA AND TETANUS.

FOR some time reports have been in circulation that in connection with the inoculation method of Koch for tuberculosis, a similar process would be applicable to other diseases.

Sir Joseph Lister is reported to have made a speech at King's College, on his return from Berlin, in which he said that within a month the world would be startled by two new discoveries. He said Dr. Koch's consumption-cure hinted at and involved the cure and prevention of two of the most terrible contagious diseases known. He had witnessed experiments on guinea-pigs in which they were inoculated with a new, simple chemical substance which any one would be able to prepare, and were totally unaffected when germs of these diseases were injected.

This was supposed to refer to investigations of Dr. Behring, assistant in the Hygienic Institute and Dr. Katsato of Tokio. An article by them appears in the *Deutsche Medicinische Wochenschrift* of last week, and an abstract has been telegraphed to the *Medical Record*, which published it December 6th, which says experimentation these observers claim mals suffering from either diphtheria e inoculation of the serum from the already infected. It is claimed by a experiments, (1) that the blood of from tetanus possesses the property > tetanus poison; (2) that this pro l by the non-cellular serum obtained (3) that this property is of so cont it also remains active in the organa, so that notable therapeutic effects the transfusion of blood or serum; of destroying the tetanus virus is od of those animals which are not tetanus, and if the tetanus virus is -protected animals, it can be so de after the death of the animals, in the other fluids of the body. A nts are described. he authors express a hope that the strated in these experiments may, in to the treatment of diphtheria and

After going to press we received the following cable from Dr. Harold Ernst in Berlin, under date of December 10th:

"The secret of making Koch's material has been turned over to, and kept by the German Government only until a thorough trial can be made. The effect in lupus and surgical tuberculosis is most striking, because the results can be seen. The most wonderful property is the selective affinity for tuberculous nidus, often making latent centres active. Pulmonary tuberculosis will have to be under observation for a long time still before permanent result is determined. The action of the material is certainly as wonderful as that of any known medicine."

and incompetent persons that they are in a position to dispense the new treatment.

¹ New York Medical Record, December 6, 1890.

MEDICAL NOTES.

been introduced in the Georgia legis- physicians and drug clerks who are p of whiskey or opium from practising their profession. For the first conviction of being drunk a fine of two hundred dollars is imposed, and for the second the license to practice is revoked.

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The excitement in Berlin is intense. The city is full of physicians trying to find out something, and trying to get a specimen of the so-called lymph. Although about a thousand cases are under treatment in the Berlin hospitals, the amount of the fluid obtainable seems to be very small, and very little has left the city.

The material used by Professor Koch in his inoculations,¹ is a viscid fluid, the color of a dilute solution of iodine, of a slightly syrupy consistence. It is prepared for use by adding one hundred grammes of sterilized water, the maximum dose of injection being one gramme. No reaction appears locally, but at the end of four hours severe constitutional effects are manifest in the appearance of rigors with malaise, followed by a temperature which may reach 106° F., with a corresponding increase in the pulse-beat from 120 to 160. Vomiting may occur. Sometimes the reaction is attended with alarming symptoms, very great prostration (requiring the use of stimulants) and severe dyspnea. When the tuberculous deposit is superficial, there is in and around it great tumefaction. The constitutional symptoms are usually of short duration. Subsequent injections are not attended with systemic disturbances. Over the surface and in the neighborhood of tuberculous swellings, scabs appear which, on being separated, leave healthy granulating surfaces. Cases in that stage are said to be cured, inasmuch as they show no constitutional reaction.

A report has been in circulation that the German Government intends to purchase from Koch, and to keep secret, the method of manufacture of the fluid, except that, later, properly commissioned deputations of other governments may be taught the art with the understanding that the secret shall go no farther. Such a step, though possibly guaranteeing the uniformity of the lymph, would give the manufacture too much the air of a proprietary medicine, and, from that point of view, is to be deprecated, although the adoption of some similar step might prove to be a necessity, in order to hold in check announcements of unscrupulous and incompetent persons that they are in a position to dispense the new treatment.

Should the lymph continue in demand, this is a question on which there may be differences of opinion as well as numerous rumors, and we shall have occasion to refer to it again.

INOCULATION FOR DIPHTHERIA AND TETANUS.

FOR some time reports have been in circulation that in connection with the inoculation method of Koch for tuberculosis, a similar process would be applicable to other diseases.

Sir Joseph Lister is reported to have made a speech at King's College, on his return from Berlin, in which he said that within a month the world would be startled by two new discoveries. He said Dr. Koch's consumption-cure hinted at and involved the cure and prevention of two of the most terrible contagious diseases known. He had witnessed experiments on guinea-pig in which they were inoculated with a new, simple chemical substance which any one would be able to prepare, and were totally unaffected when germs of these diseases were injected.

This was supposed to refer to investigations of Dr. Behring, assistant in the Hygienic Institute and Dr. Katsatos of Tokio. An article by them appears in the *Deutsche Medicinische Wochenschrift* of last week, and an abstract has been telegraphed to the *Medical Record*, which published it December 6th, which says that after long experimentation these observers claim to have cured animals suffering from either diphtheria or tetanus by the inoculation of the serum from the blood of animals already infected. It is claimed by a large number of experiments, (1) that the blood of rabbits protected from tetanus possesses the property of destroying the tetanus poison; (2) that this property is possessed by the non-cellular serum obtained from the blood; (3) that this property is of so constant a nature that it also remains active in the organism of other animals, so that notable therapeutic effects are produced by the transfusion of blood or serum; (4) the property of destroying the tetanus virus is absent in the blood of those animals which are not protected against tetanus, and if the tetanus virus is injected into non-protected animals, it can be so demonstrated, even after the death of the animals, in the blood and in the other fluids of the body. A series of experiments are described.

In conclusion the authors express a hope that the principles demonstrated in these experiments may, in time, be applied to the treatment of diphtheria and tetanus in man.

MEDICAL NOTES.

— A bill has been introduced in the Georgia legislature to prohibit physicians and drug clerks who are addicted to the use of whiskey or opium from practising their profession. For the first conviction of being drunk a fine of two hundred dollars is imposed, and for the second the license to practice is revoked.

¹ New York Medical Record, December 6, 1890.

— Mr. Lodge has embodied some of the suggestions of Surgeon-General Hammond concerning restrictions on immigration, in a bill which he will introduce before long. This bill aims to exclude all undesirable persons, and devises means and provides the proper officers to carry this prohibition into effect. It also adopts the precautionary measures recommended by Dr. Hammond by providing that no immigrant shall be brought here who has not a certificate of fitness from the United States consul nearest his home. This certificate must be in detail and cover not only the proposed immigrant's financial ability, but also his physical condition and moral character.

— A device called a "pill-taker" recently introduced in England, consists of a light horseshoe-shaped piece of metal, which grips the edge of the wine-glass and supports a little cup-shaped arrangement of bars in which the pill is placed. The victim has then but to take a drink, and the pill is washed down the gullet with an ease and a certainty calculated to surprise the novice in the act of pill-swallowing.

— A perplexing suit involving professional secrecy has been before the Paris Society of Public Medicine. A suburban practitioner, called in to attend a patient suffering from scarlet fever, advised the landlord to disinfect the house. This was done, and the landlord sued the patient to recover the cost. The patient thereupon sued the doctor for breach of professional secrecy, and it is thought that he will win his case.

— Dr. Prentiss at a meeting of the International Medical Congress at Berlin, related the case of a lady, aged twenty-five, who had thin blonde hair, and who suffered from uræmic symptoms depending on an affection of the kidneys. Frequent injections of pilocarpine were given. In one month the hair had become changed to a chestnut color, and after two months it was found to be a deep black, the hair, moreover, being much fuller and thicker than before.

— A daily paper from a town in Illinois says: "There is upon the face of the earth no more pleasant place than the interior of the office of Dr. J. P. Slaughter. It has recently been built and is located some distance from the main highway, affording the traveller only a bird's-eye view of its gigantic proportions. The style of the architecture is the Moresque of the twelfth century. The interior contains a parlor, vestibule and druggist's room, in all resembling a Gothic cathedral. The eye of the visitor wanders over this expanse, bewildered by its extent and the impossibility of grasping its vast dimensions. It is surmounted by a graceful dome rising a few feet above the roof, and terminating in a colossal ball which supports a figure of the doctor standing with outstretched arms, as if extending a welcome to all the world. At the corners are highly decorated arcades with promenades looking outward over the surrounding country, and inward over the beautiful gardens, ornamented with fountains and statuary. The druggist's room is open at all hours, and is presided over by Sam Parrish. A flight of blue marble steps leads up to the front en-

trance from the terrace, at the centre of which is an open kiosque about twelve feet in diameter. At the entrance the visitor passes through a self-registering turn-stile."

NEW ENGLAND.

— The Massachusetts Home for Intemperate Women has its new home in working order, and there are ample and suitable arrangements for the accommodation of private patients who require such facilities as the Home can offer. Such patients may receive treatment, medical or surgical, by their own physicians if they so desire.

— The Massachusetts State Board of Health recently made complaint against the manufacturers of a face lotion which was sold under the name of "Madame A. Ruppert's World-Renowned Face Bleach," and "Madame M. Yale's Excelsior Bleach," and contained a dangerously large amount of bichloride of mercury. The case was brought up in the criminal session of the Municipal Court, where the two defendants pleaded guilty, and were fined ten dollars apiece.

— The Brockton Hospital Company has been incorporated under the laws of Massachusetts. The company is formed in the language of the certificate of organization, "for the purpose of establishing and maintaining a hospital in the city of Brockton for the surgical and medical treatment and nursing of sick and wounded who may not have the means or opportunity to obtain relief and care in other ways, and of any others who may desire such treatment." The organization has no capital stock, but the members of the company severally agree to pay for the uses of the hospital the sum of ten dollars annually for the next five years.

NEW YORK.

— At a meeting of the Section on Hygiene, Public Health and State Medicine of the New York Academy of Medicine, held December 5th, Dr. Simon Baruch read a paper entitled, "A Study of the Public Baths, together with an Inexpensive Method for their Hygienic Utilization." In it he urged the desirability of establishing in the tenement districts of the city a system of shower baths, which he believed to be the most effective, as well as the most economical.

— Succi is now in the last third of his attempted fast of forty-five days, and although he plainly shows the effects of the great strain upon his system, his condition remains very fair under the circumstances. On December 5th his weight was 112½ pounds.

— A theatre for the amusement of the patients, with workshops in the basement for their use, has been fitted up at the New York City Asylum for the Insane (females) on Blackwell's Island, by the Commissioners of Charities and Correction, at an expense of \$4,000; and it was recently opened by a musical and miscellaneous entertainment which greatly delighted the five hundred patients who made up the audience. The building devoted to the purpose was one formerly used as part of the asylum.

Miscellany.

THE MEDICAL REGISTER FOR NEW ENGLAND.

We have been told from reliable sources that circular blanks will soon be sent out to gather information for a new edition of "The Medical Register for New England." The Medical Register is well-known to a large part of the subscribers of this paper. It is a well-recognized fact that it aims to be a thoroughly practical working book, to be found on the tables of physicians who have the most active interest in their profession as it exists to-day in New England.

The book contains all that can be found out, or that any one need know, of all the national, State and local societies, either general or special; of the medical schools and kindred institutions, the hospitals and dispensaries, and various institutions to which we must refer our patients; and of those thousand miscellanies which we are glad to have at our fingers' ends, but can never quite reach. Perhaps, still more valuable are the biographical records of members of the State societies; — by which one can speedily learn the length, breadth and standing of every member therein recorded.

The present duty which impresses itself on our minds as pertaining to the periodical labor of one of our fellow-members in Boston in his relations with his fellows here and elsewhere is that *they owe him the duty of co-operation*. The work of collecting the information necessary for such a book, the know-how and know-where to find it, the putting it together and seeing it through the press, is a labor of no small moment. This labor on the part of the author can be much lessened and the final result much improved by the joint action of members of the profession. To this end each one individually ought to give attention, not only to his own individual record, but as an officer or member of a society or as a worker in a hospital or a school should feel an interest in this joint work for the united good.

Let us see how this will work. Dr. Eyeopener or Dr. Taubbilfer, in one of the cities, is asked to consult with a self-styled physician from the most retired part of New England. Is he a reputable physician or not? Let the Medical Register decide. Again, Dr. Blank of the metropolis wishes to send a patient away to Cranberry Centre among the Granite Hills. Shall he send to Dr. X. Y. Z., who, so far as any record goes, is an entirely unknown quantity, — or to Dr. A. B. C., whose record gives him an M.D. from a reputable college, within recent years, and, with a membership in societies and authorship of professional papers which show that he is abreast of the times and thinking over conscientiously the problems which trouble the best of us.

These are but two points. We must all co-operate; individually, by sending *our own records in full*, so that others may know us as we may wish to be known; as officers of societies, so that as they are better known the better men may be drawn into them; as officers of medical schools and similar bodies for the same reason; as officers of hospitals and kindred places. What more frequent question? How can I get a child into the Children's Hospital in Boston? Does Dr. B., of Beeville, take mental cases as well as nervous? Or what hospitals give special attention to this, that or the other disease?

Again, these are our points, they all show that works of the character of a Medical Register, which invokes so much labor in the making, is justly entitled to the attention of each man for five minutes of his time with his personal record; to secretaries and others with their accounts; and, by and by, — if our societies themselves do not subscribe in the interest of all their members, — to the personal subscriptions of each one of us.

MANIPULATION OF THE NASAL MUCOUS MEMBRANE.

DR. VON CEDERSCHIÖLD¹ has for some years employed a kind of manipulation, which he considers is of the nature of massage, in various affections of the nasal and pharyngeal mucous membrane. He first tried this kind of treatment on himself while suffering from chronic pharyngeal catarrh following diphtheria, and since then has had opportunities of using it on about a hundred cases in Stockholm. The instrument for the nares consists of a double spiral of silver wire about five inches in length, provided with a small wooden handle at one end and a loop or eye at the other. This loop serves to fasten one end of a strip of batiste — a material of which infants' frocks are made — which is wound round the spiral so as to cover it completely before the process is commenced. The instrument is gently introduced into the nostril, and moved to and fro. For the pharynx a sponge-holder is used, carrying a plect of cotton-wool, which, as well as the metal parts, is carefully covered over with batiste. Gentle but rapid friction movements are made with this over the mucous membrane of the pharynx or naso-pharyngeal space. Not content with manipulating these regions, Dr. von Cederschiöld has actually invaded the interior of the Eustachian tube. For this purpose he employs a spiral similar to that used for the nares, but much finer — fine enough, that is to say, to be introduced into the tube through an ordinary Eustachian catheter.

A TRUE HERMAPHRODITE.

In a letter to the *New York Medical Journal*, November 22, 1890, Dr. C. W. Fitch reports a case which was brought to his notice by the commandant of police of San Salvador, Salvador, C. A., while he was in charge of the sanitary service of said government.

J. H., a house servant of masculine features and movements, aged twenty-eight, height five feet seven inches, weight one hundred and thirty-nine pounds, was arrested by the police for violation of the law governing prostitution, which compels prostitutes to register with the Direction-General of Police and pass a weekly examination by a surgeon detailed for that purpose. On examination, both female and male organs of generation were found in a remarkably well-developed condition. The labia majora were of normal size, but flattened on their anterior surface. The labia minora and the hymen were absent. The vagina was spacious, four inches and a quarter long anteriorly and six inches posteriorly. The os uteri was torn on the left side. There was profuse leucorrhœa. Seven years before, she had given birth to a normal female infant. In place of the clitoris there was a penis which when in

¹ The Lancet, November 15, 1890.

erection measured five inches and a quarter long by three inches and five eighths in circumference. The glans penis and the urethra were perfectly formed. The scutum, which was two inches and an eighth long, contained two testicles about an inch in length and two inches and a half in circumference. The mons veneris was sparsely covered with short, straight, black hair. Both sets of organs were perfect in their functions, semen being ejected from the penis and the ovaries being capable of producing eggs. Scanty menstruation occurred every three weeks, and lasted but two days. Sexual gratification was said to be equally distributed between the two sets of organs.

Up to about seven years before, masculine clothes had been worn, but when pregnancy became apparent the local authorities compelled a change to female attire.

THE TREATMENT OF FURUNCULOSIS.

DR. HOFRAU¹ stated, at the annual meeting of German physicians, that he had employed in the treatment of furunculosis an ointment composed of equal parts of oxide of zinc and vaseline, with four per cent. of boric acid. In circumscribed furunculosis the application was rubbed in and around the parts affected three times a day. The ointment was applied over the whole body in cases where the affection was universal. Sublimate baths were also employed if they could be borne by the patient. A case of universal furunculosis was perfectly healed by the treatment in seven weeks. Poultices were employed in treating large furuncles.

SPERMIN.

In consequence of Brown-Séquard's well-known statements as to the rejuvenating power of hypodermic injections of semen, says the *British Medical Journal*, October 18, 1890, renewed attention was given to an alkaloid found in the seminal fluid. The alkaloid was named spermin, and the hydrochloride of spermin has been administered hypodermically by Professor Poehl, in a large number of cases with alleged beneficial effect. He states that it acted as a general stimulant in many forms of chronic disease, and his results have been confirmed by a number of other Russian observers. Dr. Paul Werner² devotes a long article to an exhaustive criticism of these results, and shows that most of the cases reported were of such a nature that improvement often takes place spontaneously without other treatment than rest and the improved hygienic conditions consequent on coming into hospital. In no case was the benefit derived of a striking or unusual character. In other cases (as with Brown-Séquard himself, according to Dr. Werner) the tonic effect was strictly psychical, the temporary increase of strength being due to the excitement of the experiments and a confident hope of their results. The author illustrates his argument by pointing out that similar results have been obtained by many forms of charlatanism. At the Tenth International Medical Congress, Professor Poehl read a paper on spermin before the Section of Pharmacology. Several members, however, disagreed entirely with what he said,

and Professors Schmiedeberg and Kobert both stated that they had found spermin to be an inert substance, and that it could in no sense be regarded as a stimulant.³ Spermin⁴ has been known under various names since 1851 — as Charcot's or Charcot-Neumann crystals, as the asthma crystals of Leyden, and as Schreiner's crystals. In 1865 Boettcher found them in semen, and they have been obtained from the spleen, the blood, the spinal cord, white of egg, sputum, and old anatomical preparations. In 1888 Ladenburg and Abel established their identity with ethylenimine. The alkaloid resembles other ptomaines chemically, and when fresh has the odor of fresh semen, the same odor sometimes found in sputum being also no doubt due to its presence.

OBITUARY. JEDEDIAH H. BAXTER, M.D., SURGEON-GENERAL, U. S. A.

DR. J. H. BAXTER, Surgeon-General of the United States Army, died at Washington, December 4th. He had been stricken with paralysis a few days before, and, except for a few moments, did not regain consciousness. Dr. Baxter was born at Derby Line, Vt., May 11, 1837. He was educated in the University of Vermont, graduating with credit both from the academic and medical departments. He entered and graduated from the Law School of Columbia University, and, later, though not having practised law for many years, was admitted to the bar of the Supreme Court of the United States. At the breaking out of the war he was in Massachusetts practising medicine. In June, 1861, he entered the service as surgeon of the Twelfth Massachusetts Volunteers, the Webster Regiment. In April, 1862, Dr. Baxter was promoted to brigade-surgeon volunteers. He was with the Army of the Potomac during its hardest service. Later he was surgeon in charge of Camp Bell, the United States General Hospital at Washington. He was in charge of this hospital from the time it was opened till January, 1864. Then, at the request of General Fry, Provost-Marshal-General, Surgeon Baxter was detailed on his staff, and became the chief medical officer of his bureau. This position gave Surgeon Baxter an opportunity to collect the records of the physical examination of more than 100,000 men who were examined for enlistment. From these records he compiled a valuable work on "Vital Statistics," which is still a well-known book of reference. After serving throughout the war, Surgeon Baxter, when the army was reorganized, was appointed assistant medical purveyor, with the rank of lieutenant-colonel. In 1872 President Grant promoted him to the chief medical purveyorship of the army, with the rank of colonel, and he held that position until the 16th of last August, when President Harrison appointed him surgeon-general, with the rank of brigadier-general, although not in regular order of promotion.

It will be remembered that Dr. Baxter was one of the attendants upon President Garfield, after he was assassinated by Guiteau. He had many political acquaintances in Washington, not a few of whom enjoyed the hospitality of his summer home on the Restigouche River in Canada, where he was much devoted to the sport of salmon fishing.

¹ Monatsh. f. pract. Derm., vol. xi, No. 8.
² St. Petersb. med. Woch., October 4th.

³ British Medical Journal, August 30th, p. 521.

⁴ Nouveaux Remèdes, September 24, 1890.

PEROXIDE OF HYDROGEN.

It is only recently that the value of peroxide of hydrogen as an antiseptic has begun to be recognized to the extent that it deserves. In past times it has frequently been impure, or so old that it had lost its properties. An editorial article in the *University Medica Magazine* for December, calls attention to the fact that the drug is now gradually and steadily growing in favor on account of its merits.

As ordinarily found in the shops, peroxide of hydrogen is a 3.2 per cent. solution, yielding fifteen times its bulk of oxygen. This solution is far more potent than is water charged with fifteen times its volume of oxygen, since in the peroxide preparation the gas is given off in its nascent state and is peculiarly powerful in its chemical affinities.

There is abundant evidence as to the value of peroxide both from the clinical and the unexperimental standpoint. The number of those who have reported excellent results from its use is very large, and to this must be added the testimony of the bacteriologists,

who find in this drug a potent and almost immediate germicide. It is devoid of septic properties, its worst effect being, when used in a too concentrated form, to cause some local pain and irritation. It is applicable to all cases where there is pus, and when the discharge is foul and profuse is unequalled in the effect it produces. Its use in a great variety of sloughing and suppurative cases has given results better than those obtained from any other germicide, bichloride of mercury not excepted. To a granulating surface it can be applied by means of an atomizer; in the case of a suppurating fistula or cavity it may be injected by means of a syringe. Immediately after its application to a suppurating surface, an active effervescence goes on, and every particle of pus which it reaches is destroyed. The microbes also are vitalized, so that a large surface can sometimes be rendered aseptic by one or two thorough applications. Even if this result is not reached, the discharge is very much diminished. The use of peroxide of hydrogen as a disinfectant of water has already been noticed on page 477 of the JOURNAL.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 29, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,692,237	654	225	12.85	16.80	6.30	1.20	.75
Chicago	1,100,000	323	121	20.77	13.33	6.20	.31	4.05
Philadelphia	1,200,000	348	119	12.32	9.88	5.20	1.36	3.90
Brooklyn	882,467	263	125	17.36	21.56	7.56	1.40	1.40
St. Louis	550,000	129	36	9.36	8.56	3.90	1.36	2.34
Baltimore	500,343	145	41	13.80	8.28	5.52	.69	4.83
Boston	446,507	159	39	6.30	11.97	1.89	1.26	3.15
Cincinnati	325,000	128	72	17.38	8.69	14.82	—	2.34
New Orleans	260,000	155	45	12.35	7.15	1.95	6.80	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	68	27	14.70	7.35	5.88	2.94	4.41
Nashville	68,513	35	14	22.88	16.16	—	11.44	5.72
Charleston	60,145	45	18	17.76	2.22	—	11.11	2.22
Portland	42,000	9	3	—	22.22	—	—	—
Worcester	34,536	16	7	18.75	—	6.25	12.50	—
Lowell	71,905	38	10	29.70	8.10	—	—	24.30
Fall River	74,351	21	13	16.66	8.32	8.32	—	8.32
Cambridge	69,837	14	6	14.28	35.70	7.14	—	7.14
Lynn	54,684	18	8	5.55	5.55	—	—	—
Lawrence	44,559	9	5	33.33	11.11	22.22	—	11.11
Springfield	44,164	14	4	14.28	7.14	—	—	—
New Bedford	40,705	16	9	12.50	—	6.25	6.25	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	11	2	9.05	18.18	—	—	9.09
Chelsea	27,850	16	1	12.50	25.00	6.25	—	—
Haverhill	27,322	—	—	—	—	—	—	—
Brockton	27,183	—	—	—	—	—	—	—
Tarzwell	25,389	7	4	—	14.28	—	—	—
Newton	24,375	5	0	—	—	—	—	—
Malden	24,984	2	0	—	—	—	—	—
Fitchburg	22,007	9	3	22.22	11.11	11.11	—	—
Gloucester	21,262	2	1	—	—	—	—	—
Waltham	18,522	6	2	—	33.33	—	—	—
Pittsfield	17,252	—	—	—	—	—	—	—
Quincy	16,711	10	5	—	40.00	—	—	—
Northampton	14,961	—	—	—	—	—	—	—
Newburyport	13,914	3	0	—	—	—	—	—
Brookline	12,076	—	—	—	—	—	—	—

Deaths reported 2,818; under five years of age 962: principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 405, acute lung diseases 375, consumption 353, diphtheria and croup 175, typhoid fever 78, diarrhoeal disease 49, scarlet fever 34, whooping-cough 18, measles 15, malarial fever 15, cerebro-spinal meningitis 12, erysipelas 7, puerperal fever 1.

From scarlet fever, New York and Brooklyn 10 each, Philadelphia 5, Chicago 4, St. Louis 2, Baltimore, Washington and Lowell 1 each. From whooping-cough, Chicago 6, Brooklyn 5, New York 3, Baltimore 2, Philadelphia and New Orleans 1 each. From measles, New York 12, Chicago, Brooklyn and Springfield 5 each, Boston 4, Worcester 3, Lowell 2, Cambridge 1, New Haven 5 each, New York 1, Philadelphia, Baltimore, Charlton and Fitchburg 1 each. From cerebro-spinal meningitis, New York 4, Brooklyn 3, Chicago 2, Nashville, Lynn and Chelsea 1 each. From erysipelas, Chicago 3, New York 2, Brooklyn and Nashville 1 each. From puerperal fever, Springfield 1.

The meteorological record for the week ending Nov. 29, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.			Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall.	
	Daily Mean.		Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration & Min. Amount in Inches.
	Saturday, Nov. 29, 1890.														
Sunday...	23	29.93	28.0	32.0	25.0	85	72	78.4	S.W.	N.W.	10	7	O.	G.	
Monday...	24	29.97	27.0	31.0	19.0	85	65	69.0	W.	S.W.	9	5	G.	O.	
Tuesday...	25	29.81	44.0	60.0	36.0	83	80	48.0	S.W.	S.W.	10	12	F.	O.	
Wednesday...	26	30.09	35.0	40.0	30.0	69	63	66.0	W.	N.W.	18	9	F.	C.	
Thursday...	27	30.04	27.0	24.0	31.0	63	70	67.0	N.W.	N.W.	10	11	O.	F.	
Friday...	28	30.02	23.0	31.0	15.0	94	52	73.0	N.W.	N.W.	9	14	C.	C.	
Saturday, 29	29.91	33.0	35.0	45.0	21.0	68	68	68.0	W.	W.	10	11	O.	O.	
Mean for Week.															

* O., cloudy ; C., clear ; F., fair ; G., fog ; H., hazy ; S., smoky ; R., rain ; T., threatening ; N., snow. + Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 29, 1890, TO DECEMBER 5, 1890.

By direction of the Secretary of War, leave of absence for six months is granted Captain WILLIAM E. HOPKINS, assistant surgeon, S. O. 278, Par. 2, A. G. O., Washington, D. C., November 29, 1890.

By direction of the Secretary of War, Captain JAMES E. PHILCHER, assistant surgeon, now on leave of absence, will report in person to the commanding general, Division of the Atlantic, for temporary duty at Fort Columbus, New York Harbor, during the absence on leave of Captain WILLIAM E. HOPKINS, assistant surgeon, S. O. 278, Par. 3, A. G. O., Washington, D. C., November 28, 1890.

By direction of the Secretary of War, First Lieutenant EUGENE L. SWIFT, assistant surgeon, is removed from further duty and station at Fort McDowell, Arizona Territory, assigned to Fort Thomas, Arizona Territory, where he is now on temporary duty. S. O. 282, Par. 16, A. G. O., Washington, D. C., December 3, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 6, 1890.

L. W. ATLEE, assistant surgeon, ordered to examination preliminary to promotion.

H. M. MARTIN, surgeon, placed on retired list December 4, 1890.

A. R. ALFRED, assistant surgeon, ordered to the Naval Hospital, Norfolk, Va.

J. M. WHITFIELD, assistant surgeon, from Hospital Norfolk, and to the U. S. S. "Chicago."

A. M. D. MCCORMICK, assistant surgeon, detached from U. S. S. "Chicago," and wait orders.

J. F. KEENEY, assistant surgeon, ordered to the U. S. S. "Minnesota."

H. N. T. HARRIS, assistant surgeon, detached from the U. S. S. "Minnesota," and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING DECEMBER 6, 1890.

FESSENDEN, C. S. D., surgeon. Leave of absence extended seven days. December 4, 1890.

BAILLACHE, P. H., surgeon. Granted leave of absence for twenty days. November 28, 1890.

HUTTON, W. H. H., surgeon. To proceed to Solomon's Island, Md., on special duty. November 29, 1890.

SAUTELLE, H. W., surgeon. Granted leave of absence for ten days. December 2, 1890.

PETRAKOFF, C. T., post assistant surgeon. Granted leave of absence for ten days. December 1, 1890.

HUSSEY, S. H., assistant surgeon. When relieved to proceed to New Orleans, La., for duty. November 24, 1890.

GROENEVELT, J. F., assistant surgeon. When relieved to rejoin station. November 24, 1890.

COOPER, L. E., assistant surgeon. Ordered to temporary duty at Boston, Mass., November 24, 1890.

SOCIETY NOTICE.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—The Section for Clinical Medicine, Pathology and Hygiene will meet at 138 Boylston Place, on Wednesday, December 17th, at 7.45 o'clock.

Speaker, Dr. W. N. Bullard, "The Care of Chronic Pauper Epileptics." Dr. L. M. Baker, of Baldwinville; Dr. Edward Cowles, Superintendent of McLean Asylum, Somerville; Dr. Walter E. Fernald, Superintendent of Massachusetts School for the Feeble-minded; Dr. Everett Flood, Superintendent of Hospital Cottages for Children, Baldwinville, Mass.; Dr. Geo. F. jelly, Boston; Dr. A. R. Moulton, Massachusetts State Board of Health, Lunacy and Charity; Dr. Geo. H. Rose, Superintendent of City Hospital, Boston, and others are expected to take part in the discussion.

ALBERT N. BLODGETT, M.D., Sec'y., 138 Boylston St.

E. G. CUTLER, M.D., Chairman.

THE MATTISON PRIZE.

OPJUM ADDICTION AS RELATED TO RENAL DISEASE.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of \$400 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries:

Will the habitual use of opium, in any form, produce organic renal disease? If so, what lesion is most likely? What is the rationale?

The contest is to be open for two years, from December 1, 1890, to either sex, and any school or language. The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a New York medical journal, *Brooklyn Medical Journal* and *Journal of Inebriety*. Other papers promising to be published in some leading medical journal as their author's own work.

All papers are to be in possession of the Chairman of Award Committee on or before January 1, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, President of New York Academy of Medicine, Chairman; Drs. H. F. Formad, Philadelphia; Ezra H. Wilson, Brooklyn; Geo. F. Shady and Jos. H. Raymond, editor *Brooklyn Medical Journal*.

OBITUARY. SAMUEL SWETT, M.D.

Dr. Samuel Swett, for eighteen years a well-known retired physician of Jamaica Plain, died last week. He was born at Cambridge in 1810. After studying one year at Harvard College, he finished his education at the Harvard Medical School and at the Medical School in Philadelphia, and subsequently became house-surgeon at the Massachusetts General Hospital, Boston. Four years ago he was also surgeon of the Independent Corps of Cadets. Dr. Swett had spent a portion of his earlier years abroad, and was probably the last survivor of that colony of young physicians in Paris of whom Oliver Wendell Holmes has lately written in "Over the Teacups."

DEATH.

Died in Boston, Mass., December 10, 1890, O. W. Doe, M.D., M.M.S.S., aged forty-seven years.

BOOKS AND PAMPHLETS RECEIVED.

Report of the Surgeon-General of the Army to the Secretary of War, for the Year ending June 30, 1890.

Original Articles.

AN UNSUCCESSFUL CASE OF DIGITAL DILATATION OF THE PYLORUS FOR CICATRICAL STENOSIS.

BY E. G. CUTLER, M.D., AND M. H. RICHARDSON, M.D.

HISTORY OF THE CASE.

D. H. L., a horse-shoer, aged fifty-two, married, called on me April 3, 1890, and gave the following history: He had suffered frequently from attacks of dyspepsia and acid eructations for the past twelve years. During one of these attacks in recent years he had vomited blood in considerable quantity and had suffered from epigastric tenderness. For a year he had suffered from dyspepsia, off and on, with occasional vomiting and constipation. Of late the vomiting had recurred every two or three days, preceded by considerable pain and gastric distension. The vomitus was usually in great quantity, and would afford relief to pain for a day or two, when the symptoms would gradually return, and after becoming quite severe, relief would only be obtained by profuse emesis. The vomitus was frothy, sour-smelling, and consisted of partially digested food and slime.

At the time of the visit he was quite emaciated, the skin was dry and harsh, the eyes deep-sunken, the breath foul, and the tongue covered with a thick, brownish coat. He said that in about an hour after taking food, pain would be felt to the right of the epigastrium, which would increase in severity, till at last he would force himself to vomit a little, when relief would soon follow, the pain gradually dying away; and every two or three days there was profuse emesis. The bowels had been constipated for some time. The pulse was small and about seventy-six to the minute; examination of the heart and lungs was negative. The abdomen was sunken in at the epigastrium, and quite distended at, and just below, the umbilicus. There was at this part of the abdomen a half-moon-shaped distension, dull on percussion, which fluctuated to the touch, gave the succussion sensation to the hand and ear, and altered its shape and location on changes of position. No tumor could be felt anywhere in the abdomen. The stomach tube was passed, and about three pints of sour-smelling, frothy fluid, of the consistency of thin paste was removed, together with a large number of seeds from a preserve eaten some days before. This gastric fluid, on testing, was found to contain free hydrochloric acid in quantity estimated to be about normal, also some lactic, acetic, and butyric acids and mucus. On blowing up the empty stomach with air, it was found to reach nearly to the pubes, and to give a tympanitic resonance everywhere except in the right hypochondriac and right epigastric regions. The distended stomach nearly filled the abdominal cavity. Three quarts of water were readily taken into the stomach by the patient through the tube. The stomach having been thoroughly washed out and disinfected, the diet was restricted to milk, water, eggs, meat, fish, oysters, and a little bread.

Two days later the patient was seen again. He had felt much better for the treatment, and had neither vomited nor suffered pain, but his mouth and lips had been quite sore from the irritating character of the fluid which had been vomited during the washing pro-

cess. A test meal was given, and he was found to have plenty of hydrochloric acid in the gastric juice. The time of absorption from the stomach was found to be a little longer than normal, and certain pills given at the previous visit were washed out, showing the delay in the onward passage of the gastric contents. He was again washed out and told to report in three days.

The gastric absorption, motor activity, and chemical character of the gastric juice were investigated for a fortnight, with always the same result. The symptoms, therefore, together with the results of examination, showed conclusively that there was pyloric obstruction and gastric dilatation. The previous history, the chemical examination of the gastric juice, and the absence of tumor, pain, and cachexia, led to the belief that the stenosis was probably cicatrical, due to a healed gastric ulcer.

At this time he was seen in consultation by Dr. A. T. Cabot, who concurred in the diagnosis, and advised digital dilatation of the pylorus. After taking three weeks to consider the matter, and meantime having become more feeble and emaciated, he entered the Massachusetts General Hospital for operation. The washing out relieved the patient at first so that he could go for three days, and later for five days, without trouble. The dilatation of the stomach decreased somewhat under treatment, and when he lay on the right side there could be felt, in the right lumbar region, a soft, flexible, painless mass, about the size of the two thumbs, which could be rolled under the fingers, be moved several inches in any direction, and which was believed to be the pyloric end of the greater curvature of the stomach, hypertrophied and dislocated. After the first few days nutrient enemas were given, three to four times a day, in addition to the other treatment. In spite of all that was done, the patient steadily lost flesh at the rate of about three pounds a week, so that surgical interference alone offered any chance of relief. Dr. Cabot having meantime broken his arm, Dr. M. H. Richardson assumed charge of the case.

E. G. C.

OPERATION AND SUBSEQUENT HISTORY.

Two days before the operation the patient was fed by nutrient enemas; nothing whatever was taken by the stomach. The bowels were thoroughly cleaned out with castor oil and enemas. On the 8th of May, the day previous to the operation, the abdomen was scrubbed with soap and water, washed with ether, and then covered with a bichloride dressing. On May 9th the patient had a small enema of brandy and milk at 7 o'clock. Stomach thoroughly washed out at 9.30. Rectum again cleaned out with enemas, and the patient given a final enema of one ounce of brandy.

Operation.—Patient transferred to the abdominal amphitheatre at 10.30. Patient having been etherized carefully, an incision four inches in length was made between the ensiform cartilage and the umbilicus, terminating at the latter point. The pyloric end of the stomach was quickly exposed and drawn four inches out through the abdominal incision, where it was held by an assistant. At this point the condition of the patient suddenly became alarming; the pulse was feeble, and he ceased to breathe. Artificial respiration was resorted to and brandy given hypodermically. He soon improved, and after a few minutes the operation was continued. During the rest of the operation no

¹ Read at the Meeting of the Surgical Section of the Suffolk District Medical Society, November 5, 1890.

ether was given. The stomach being fully exposed, an incision was made between the greater and lesser curvatures, about three inches from the pylorus. This was felt to be thickened very considerably. The vessels on the peritoneal surface were congested, the mucous membrane was thickened. There was considerable oozing from the cut in the mucous membrane, but no free hemorrhage. The finger was then passed into the stomach while its walls were held tense by fingers of an assistant, sponges being packed about the wound. At first the finger could not be introduced into the pylorus. There was a thick, contracting ring almost cartilaginous to the feel. Prolonged attempts at digital divulsion in about twenty minutes were followed by enlargement of the orifice sufficient to admit two fingers with the greatest ease. On attempting to increase the orifice to a diameter greater than that of two fingers, a very firm, constricting band was felt which made a deep furrow in the dilating finger. This fact was noted by Dr. Cabot, who introduced his fingers and called attention especially to the constricting band. There was no hemorrhage after the divulsion. The condition of the pylorus was very satisfactory. The orifice had been dilated without much difficulty to a size quite sufficient entirely to relieve all symptoms of obstruction. The opening in the wall of the stomach was then closed, the mucous membrane being brought together with a continued silk suture, and the peritoneal coat with the interrupted Lambert sutures of fine silk. Hemorrhage into the stomach was slight, as shown by the subsequent vomitus, which consisted mainly of bile and mucus. The abdominal incision was closed with eight silver-wire sutures, and a large, dry, absorbent cotton dressing applied. The whole operation lasted fifty-five minutes. The patient rallied slowly, but at 4 p. m. was in a very fair condition. Complained of much epigastric pain, but was relieved by sulphate of morphia, one-sixth of a grain hypodermically. Given an enema of three ounces of peptonized milk, one ounce of brandy, and one raw egg at 6 p. m. Slept comfortably subsequently.

May 10th. Patient has been in a very feeble condition through the day. Has vomited small amounts of bile and coagulated blood three times. Pulse irregular in rhythm and volume, rate from 100 to 120; evening temperature 98.6°; respiration 16 to 20. He has had nutrient enemas of peptonized milk, and egg and brandy, every four hours. Peptonized milk three ounces, one raw egg, and one ounce of brandy, with occasionally a little digitalis added. Frequent hypodermic injections of brandy. Has required one-sixth of a grain of morphia twice to-day for pain and vomiting. This evening at 8, patient is feeling fairly comfortable, with pulse at 106. No abdominal distension.

May 11th. Condition little changed since last night. Began to take champagne, one drachm every half-hour, at 3 p. m. Slightly stronger at 8 p. m. Nutrient enemas continued.

May 12th. Patient has failed steadily all day, in spite of constant stimulation with brandy, atropia and nitro-glycerine by hypodermic injection and by rectum. Small doses of champagne have caused nausea. There has been frequent vomiting of mucus, but no blood. No distension of abdomen or abdominal pain. In intervals of nausea, lasting sometimes two or three hours, patient very comfortable. In the evening patient moribund.

May 13th. Stimulants kept up last night, but patient failed to respond. No pulse at wrist after 8 o'clock. At 10, patient perfectly rational. Died quietly at 2.20 a. m. No examination was allowed.

The condition of extreme emaciation into which this patient had come, from prolonged mal-nutrition, was probably the cause indirectly of a fatal termination in this case. It has been my experience in quite a number of laparotomies where the condition of the patient was one of great anemia from prolonged disease that death quite frequently follows a rapid exploratory incision. In my experience the mortality is large in exploratory operations for advanced disease, whether malignant or not. I do not think that death in this case was caused by peritonitis or by any other preventable condition, though such may have been the case. There was no leakage of the contents of the stomach into the peritoneal cavity, and the operation proceeded quickly and smoothly, without any unfortunate complications either at the time of the operation or after.

The stomach seems to heal more surely and safely after incision through its walls than any other of the abdominal viscera, and there was no reason why this should not have done the same had the man's condition been sufficiently good to allow it.

The most important local element in this case was the condition of the pylorus. The appearance and the feel of the constriction was like the non-malignant organic strictures in other parts of the alimentary canal accessible to the finger. There was a good deal of thickening and induration. There was an annular stricture which was so firm and resistant as to make a deep crease in the divulsing fingers. The divulsion of the stricture was accompanied with more or less laceration of the tissues, and was nothing more or less than a violent tearing of fibrous bands. It seems to me, therefore, that this operation for cicatricial stenosis of the pylorus, as for strictures elsewhere, must be palliative. I do not see any reason why a stricture of the pylorus should differ from a stricture anywhere else in the alimentary tract. We all know that strictures of the esophagus, the rectum, and of the urethra contract after divulsion, and it does not seem to me reasonable that a stricture of the pylorus should differ materially in this respect. The experience of others show that the stenosis of the pylorus recurs after divulsion. In some patients the operation has been repeated. A more reasonable procedure seems to me, therefore, to be found in establishing an anastomosis between the stomach and the small intestine — gastro-enterostomy. Experience in this line of treatment, however, is yet insufficient to justify any certain, fixed line of treatment in this very important class of cases.

M. H. R.

— About fifteen years ago the Queen of Holland was in London, staying at Claridge's Hotel. A great friend of hers, a Dutch baroness, was very ill at the Hague, and the queen asked Mr. Spencer Wells (not then a baronet) to go over and see the lady. The day after his return to London the queen walked round to Upper Grosvenor Street to ask after her friend, and the servant came into the consulting-room saying, "Please, sir, there is a lady in the waiting-room who wants to see you. I suppose she must be mad. She says she is the Queen of Holland."

PERFORATING GASTRIC ULCER; CIRCUMSCRIBED PERITONITIS; DEATH ON THE FIFTEENTH DAY.¹

BY REGINALD H. FITZ, M.D.

The following case is reported for the purpose of illustrating the possible benefits to be derived from a laparotomy immediately after the perforating of a gastric ulcer, as well as at a later period in the course of the consequent peritonitis.

A female cook, forty-one years old, was admitted to the Massachusetts General Hospital at the time of the visit, and came under my care. She was evidently suffering intensely from abdominal pain. The abdomen was moderately swollen, tense and tympanitic, and there was a complete absence of hepatic dulness in front. There was slight, general tenderness, while there was no marked, localized sensitiveness. A rectal examination was negative, and the uterus was freely movable, not tender to the touch. The pulse was 70, of fair strength, and the temperature was 100° F. The respiration was 25.

It appeared, on inquiry, that eighteen hours before entering the hospital, she was suddenly seized with a severe pain in the left epigastric region. She was cooking a piece of steak at the time, and had eaten nothing during the afternoon excepting a bit of cheese. The pain soon became general, and she was seen by Dr. J. J. Minot, who was able to relieve her distress by means of two doses of morphia subcutaneously, in all less than a half grain. At this time the abdominal walls were flat and rigid. During the night a small quantity of yellow fluid was vomited. He saw her again in the morning, at which time the abdomen was swollen, the pain was persisting, and he advised her removal to the hospital.

The patient was questioned as to any previous symptoms which might be connected with this sudden seizure. She acknowledged that during the preceding month she had noticed occasional attacks of epigastric pain running into the back, unaffected by food, also eructations and water-brash. She had not sought herself sufficiently ill to seek for medical advice.

The sudden onset of an intense, epigastric pain, with symptoms of an incipient peritonitis and a disappearance of hepatic dulness, in a person apparently well, and with slight evidence of an antecedent gastric dyspepsia, suggested as the most probable explanation—a perforating gastric ulcer. The possibility of the occurrence of an acute pancreatitis was thought of, but the collapse usually associated with this condition was not present, and the development of the peritoneal symptoms was unusually rapid. My colleagues, Drs. Cutler and Porter agreed in this opinion, and an immediate laparotomy was advised. The patient refused permission, although appreciating the gravity of her situation and feeling that she was to die.

For a week nothing was taken into the mouth excepting bits of ice; nutrient, rectal enemas were given every six hours. She was kept free from pain by small doses of morphia, from a third to a half-grain daily. For several days during the second week she required no opium whatever.

On the fifth day intercostal tenderness in the splenic region was recognized. At this time three copious dejections took place, a large amount of gas escaped

by the rectum, and the abdomen became softer and less sensitive except in the epigastrium. The area of hepatic dulness was now apparent, though narrow, in the axillary region.

At the beginning of the second week some milk was taken by the mouth. The epigastrium became conspicuously swollen and tympanic, neither excessively tender nor fluctuating, and eventually transmitted the aortic pulsations. During this period the question of a laparotomy was again presented, on two separate occasions, with a view to the drainage of the supposed peritoneal abscess, but the patient refused her consent.

During the last three days of life the strength rapidly failed, but the patient was comfortable, at times even happy, in an exalted delirium, and died on the fifteenth day.

The temperature was about 100° F. during the first week, and between 100° F. and 101° F. during the greater part of the second week. The pulse was in the vicinity of 100 until two days before death when it rapidly rose. The respiration was between 25 and 30 during the greater part of her illness.

On opening the abdomen, the space between the suspensory ligament and spleen, the diaphragm and the left lobe of the liver was shut off from the rest of the peritoneal cavity by fibrinous adhesions. It contained some two pints of thin, opaque, yellow fluid, and a considerable quantity of gas, forming the tumor observed during life. The peritoneum enclosing this space was covered with a moderately firm, fibrinous membrane. Elsewhere the peritoneum was normal in appearance, with the exception of a few delicate adhesions between the omentum and the abdominal wall. The stomach was contracted, and contained but little fluid. Its anterior wall, near the smaller curvature, was adherent to the lower surface of the left lobe of the liver, near the anterior edge. The adhesions were fibrous. At the inner surface of the stomach, corresponding to the adherent portion, was sharply defined ulcer, not as large as the little finger-nail, of elliptical shape, the edges somewhat puckered. This ulcer was in the anterior wall near the lesser curvature, and midway along its course. After separating the adherent stomach from the liver a minute perforation was found in the base of the ulcer.

It is evident from the anatomical appearances, the early hour at which a laparotomy was advised, and the strength of the patient at the time, that a favorable result was likely to have followed the immediate operation.

Unfortunately in most cases of perforating gastric ulcer an operation for relief is likely to be merely exploratory, or attended with such difficulties as to prove of no avail and to greatly shorten life. Hence in any given case it cannot be fairly urged with any considerable degree of hopefulness. The possibility of meeting with the conditions as above stated should offer a greater degree of encouragement than would be possible without such an experience.

There can be no question that the drainage of the circumscribed, peritoneal cavity would have been of the greatest advantage to the patient, and would have been likely to have considerably prolonged life. It is by no means certain that it may not have been followed by a complete cure of the ulcer. The patient's opposition to the late operation was quite as strong as to the immediate laparotomy.

¹ Read at the meeting of the Surgical Section of the Suffolk District Medical Society, November 5, 1880.

HYDROCELE IN CHILDREN, WITH A REPORT OF CASES.¹

BY ROBERT W. LOVETT, M.D.

HYDROCELE in young children is an affection which differs in so many respects from the ordinary hydrocele of adults, that it seems to merit separate consideration, and especially since in the last few years new light has been thrown upon certain points in its etiology and clinical history.

In speaking of the affection, I have used the terms infantile and congenital hydrocele not in any technical sense, as is done by some writers, but as signifying only the hydrocele of young infants.

At birth the testis should have descended to the bottom of the scrotum, carrying with it a pouch of peritoneum, which is cut off from the abdominal cavity to form the tunica vaginalis. Between the abdominal rings and the tunica vaginalis there should be no passage, only the remains of the obliterated peritoneal pouch, which should exist as a fibrous cord.

A failure of all or part of this tract to close results in the escape of the abdominal fluid into the tunica vaginalis, which distends it and forms a hydrocele. That this failure to close is more common than had been supposed is demonstrated by the figures of Zuckerkandl,² who found that in 100 new-born children the neck of the peritoneal process had failed to close in 37, 20 of them being on both sides. The opening was often small and difficult to find, but it could be clearly demonstrated to exist.

There are five possibilities in the causation of infantile hydrocele, resulting from five different anatomical conditions, and resulting in as many different varieties of hydrocele, all of which are to be distinguished clinically.

(1) The entire process of peritoneum may remain widely open from the abdomen to the bottom of the scrotum. This is called by many writers *congenital* hydrocele. (2) The funicular process of peritoneum alone may remain open, forming a *funicular* hydrocele, which does not descend to the bottom of the scrotum. (3) The funicular process of the peritoneum may be shut off above and below, but distended with fluid, forming an *encysted hydrocele of the cord*. (4) *Infantile* hydrocele is the name applied by some English writers to the condition where the tunica vaginalis and funicular process are distended with fluid, but the internal ring is closed. (5) Common *vaginal* or *scrotal* hydrocele is the condition in which, as in adult hydrocele, the fluid accumulation is confined to the tunica vaginalis.

There are few figures bearing on the frequency of infantile hydrocele. In 247 new-born children, at the Dresden Clinic, Wechselman³ found 37 cases of hydrocele. The proportion is surprisingly large, and not in accord with the statements of other writers. He explains it, however, on the ground that many of the hydroceles were so small that they would have escaped any but the closest observation.

The cases which I have the pleasure of presenting this evening are chiefly from the surgical clinic of the Children's Hospital; and, although they are not enough in number to serve as the basis of much generalization, they are nearly as large a group as any series

¹ Read at the Surgical Section of the Suffolk District Medical Society.

² Arch. f. Chir., xx, p. 216.

³ Arch. f. Klin. Chir., 1887, xxxvi, p. 627.

reported among young children, and they have been investigated largely as to the results of treatment. Of the 30 cases which I have been able to tabulate, all of which occurred previous to October 1889, five were cases of encysted hydrocele of the cord, and the remainder were situated in the tunica vaginalis, being examples of the ordinary infantile or scrotal hydrocele, with the exception of one case, which was a well-marked instance of funicular hydrocele, where the fluid did not reach the bottom of the scrotum.

The children were very young when they were seen. Two-thirds of them being in their first four months, five cases were in the second year, and over that age there were only three cases, all of which were five years old. These latter had been affected with hydrocele only a few weeks, so that they cannot be classed as congenital cases. Among Wechselman's cases, where 247 children were observed twice a day during the first two weeks of life, it was found in the 37 cases where hydrocele occurred that it appeared from the second to the fourteenth day in a large proportion of all the cases; neither in the series of cases reported to-night were the congenital cases all noticed at birth. Fifteen of them were clearly described by the mothers as beginning then, but many of the others were described as beginning in the first few weeks of life. At the same time there were several cases where the hydrocele apparently began in the first few months, and in most of them no clearly marked traumatism could be assigned. Such cases were the three already alluded to, where the hydrocele began at the age of five; in the other instances, it began sometime in the first year.

It has ordinarily been stated that the hydrocele of infants is easily reducible, the fluid running back into the abdominal cavity when the child is laid on his back and the scrotum manipulated. In these 25 cases of vaginal hydrocele the notes were defective in three cases, and of the remaining 22 cases, 19 were not reducible by any ordinary manipulation. That is to say, no connection with the abdominal cavity could be demonstrated, as the children were examined in the Out-patient Department. There may have been a valve-like opening which permitted the fluid to flow into the scrotum, and not out of it; or, perhaps, prolonged recumbency would have obliterated the hydrocele, but to the ordinary tests the fluid was not reducible in 19 out of 22 cases of infantile hydrocele.

It was, therefore, a relief to find that Wechselman⁴ found in 37 hydroceles of new-born children only 14 which were reducible, while 23 did not communicate, so far as could be ascertained, with the abdomen. Bryant,⁵ in 124 cases of children and adolescents, found only five which communicated; while Mechior,⁶ in 282 similar cases, found only 21 which were reducible.

It is this class of cases of irreducible hydrocele which is of particular interest. When the funicular process of the peritoneum is open, it is easy to see the reason for the hydrocele. But when to all intents and purposes the funicular process is closed and the tunica vaginalis is a shut sac, it is more difficult to account for the presence of fluid in the scrotum.

It is evident that irreducible hydroceles may exist even in intrauterine life, as is shown by cases of

⁴ Arch. für Klin. Chir., 36, 1887, p. 631.

⁵ Guy's Hosp. Rep., 3 s., vol. II, p. 75.

⁶ Annali Universali di Medicina, 1886, April, May and June, p. 235.

Schreiger,⁷ Tavignot,⁸ von Ammon⁹ and particularly Legende,¹⁰ who found in a child, which died almost immediately after birth a hydrocele the size of a hazelnut where the peritoneal process was completely obliterated.

Taking then the existence of irreducible hydrocele in intrauterine life and in new-born children for an accepted fact, one is at a loss to account for it by the former theory that infantile hydrocele is due to a leaking of peritoneal fluid into the tunica vaginalis. It may be that the funicular process remains open unduly long and suddenly closes, leaving fluid in the tunica vaginalis. It may be that the accumulation of fluid results from traumatism at birth or afterward; or, finally, it may be due to an idiopathic, possibly an infectious inflammation of the tunica vaginalis. It has been demonstrated that obstruction to the circulation in the cord does not cause hydrocele.¹¹

The question of the causation of the affection must be left in this very unsatisfactory condition. Probably traumatism will in future be assigned a more prominent place among the causative factors.

Of course, it is not safe to assume in these cases that no connection with the abdomen exists, if one is contemplating the use of any irritating injection into the tunica vaginalis, but the matter is of interest from a diagnostic point of view.

Although the hydrocele of adults affects the right and left side in an equal proportion, when large numbers of cases are considered in children, the right side is much more frequently affected and double hydrocele is proportionally much more common. Of the 30 cases reported, nine were double, 12 affected the right side, six the left side, while in three the affection was unilateral but the side was not noted.

The coexistence of hernia was a point of decided interest. It would be supposed that patency of the inguinal canal which was sufficient to cause hydrocele would predispose to hernia, but curiously enough in these 30 cases, many of them being double and some extremely large, only three cases of coexisting hernia were noted, one a slight funicular hernia, and the other two well-marked cases of infantile hernia.

Cases of hernia with slight accompanying hydrocele have not been included in this report.

The size of these infantile hydroceles has varied very much, at times they have been small and flaccid, but more often tense and entirely filling the scrotum. It has not always been easy to say whether the accumulation was confined to the tunica vaginalis proper, or extended to the internal ring, nor is it a matter of very much importance. In the case of one child, two months old, with a double hydrocele, half an ounce of fluid was drawn from each side of the scrotum, and this, perhaps, was as severe a case as any coming under observation, although several were equally severe. This made a tumor the size of a small orange.

The diagnosis is, of course, simple, and is dwelt upon at some length in all the text-books. There is no impulse on crying except in cases where the canal is open, and in these the fluid is easily reduced without the characteristic gurgling of hernia. Where the inguinal canal is closed, it is easy to demonstrate the pyriform shape of the tumor and impulse is absent.

⁷ Von Walther and von Ammon's *Journal für Chir.*, xxxv, 121.

⁸ *Journal für Kinderkrankheiten*, Bd. I, p. 121.

⁹ *Angenborene Chir. Kinderkrankheiten*, p. 66.

¹⁰ *Journal für Kinderkrankheiten*, xxii, p. 220.

¹¹ *Langenbeck's Arch.*, xxiv, 1879, 369.

The swelling is, of course, translucent, but this is not an easy fact to ascertain in the case of small children. The coexistence of hernia often renders the diagnosis obscure. In encysted hydrocele of the cord a hard, elastic, and non-reducible swelling is felt in the inguinal canal, which varies from the size of the normal testicle to that of a cherry. It is most likely to be confused with a retained testis but the presence of both testes in the scrotum, of course disposes of that possibility and except for the very rare occurrence of tumors of the cord, such a swelling is not to be mistaken for anything else than an encysted hydrocele.

The prognosis is said to be much more favorable than in the hydroceles of adults. Certainly the results of treatment in these 30 cases would lead one to look for a speedily favorable result in cases which did not communicate with the abdomen. When, however, the tunica vaginalis is merely a prolongation of the peritoneal cavity, and the hydrocele is reducible, and especially if hernia coexists to continually distend the testicle, the outlook is not so favorable as in those cases where the tunica vaginalis is shut off.

The treatment of the affection is, of course, the important practical interest in the discussion of these cases. I attempted to find out the results in these 30 cases, and by the kindness of my assistants at the hospital I have been able to learn the results in 21 cases. Many were from out-of-town and have neglected to answer letters, while others have disappeared from their former residences and were not to be traced by any amount of inquiry. All these cases were treated at the hospital previous to October, 1889, so that at least a full year has elapsed in every case.

Of the 30 cases it has been possible to obtain the results of treatment in 21.

Of the five cases of encysted hydroceles of the cord, four have been heard from and all were cured. One was tapped and cured by one withdrawal of the fluid. The other three were treated by counter irritation and expectancy, and yielded readily in a few days or weeks. None of these cases were congenital, and the affection had been of short duration in each case.

Of the 25 cases of scrotal hydroceles it is possible to report the results in 17 cases. Ten were tapped with a hypodermic needle or a small trocar, and the sac completely evacuated with every antiseptic precaution. Nine of these cases were cured, while one remains in the same condition at the end of two years. This was a case of double reducible hydrocele, widely open into the abdomen with a slight complicating hernia on one side. The child was tapped several times, and an attempt made to keep the fluid back by the use of a double worsted truss. No benefit whatever resulted from the treatment. The cases which were cured were tapped once or several times as occasion demanded and the sac in most cases refilled temporarily after tapping. Seven cases were treated without tapping, and the patients were kept merely under observation or given some mild counter-irritant to use. Four of these cases recovered, while three are not improved. Of these three cases that are not improved, two were reducible hydroceles, communicating freely with the abdomen (and in the case of the third no mention is made in the notes as to the patency of the abdominal ring.)

In these cases an attempt was also made to retain the fluid by the use of the worsted truss, but it was unsuccessful.

In so far as any conclusions may be drawn from so small a group of cases it seems safe to infer that hydroceles which do not communicate with the abdomen, that is, irreducible hydroceles, can be cured by simple tapping, and moreover, that there is a strong inherent tendency for them to recover under the simplest expectant treatment.

But if communication with the abdomen exists, the problem becomes more difficult and they do not seem to be amenable to this simple treatment or to expectant methods, and, finally, that encysted hydrocele of the cord has a strong inclination to recovery under the simplest methods. With regard, then, to simple irreducible hydrocele, which does not communicate with the abdomen, it seems unnecessary to go further in the discussion of the treatment. Many writers have advocated the injection of irritant fluids after the withdrawal of the contents of the sac, but that seems needless and risky. Cases of death have been reported following such injections and simple tapping seems to answer every purpose. At the French Society of Surgery the injection of chloride of ammonia was advocated by Gaillard, who reported successful cases from its use, and the injection of iodine, alcohol, chloride of zinc, and carbolic acid has been advocated by other writers. By such an authority as König the use of irritant injections in infantile hydrocele is condemned under all circumstances.

The proceeding of puncturing the sac with a needle in several places to allow the fluid to escape into the subcutaneous tissue seems to present no advantage over the tapping of the sac and is more painful.

With regard to the treatment of reducible hydrocele the question is more difficult. Possibly in later years these cases reported as unimproved to-night, may have been cured by the growth of the children and the strengthening of their tissues.

A favorite mode of treatment for these, much advocated in the books, is the use of a spring truss which shall excite enough irritation around the inguinal canal to cause the closure of the sac, but certainly in the case mentioned above, the worsted truss accomplished nothing, and the use of a spring truss in a small child is associated with much discomfort and almost inevitably with excoriation of the skin which is constantly wet under the pad. The use of an irritant injection in these cases must certainly be attended with a great deal of risk, inasmuch as it causes inflammation of a portion of the peritoneal cavity which may become general.

With regard to the operative treatment of these cases the writer has had no experience whatever. French surgeons who have been the most active in the discussion of infantile hydrocele, unite in deprecating early operation. Gaillard would never operate before the age of five or six, while St. Germain advises operation at the age of three, when the tumor is as large as a hen's egg. In general, however, the question of operation is deferred still longer.

The operative treatment consists in passing a subcutaneous ligature around the neck of the sac to obliterate the connection with the abdomen, or the sac is laid open and after the closure of the funicular process, allowed to granulate up as in the operation for adult hydrocele.

In conclusion, if these cases have served to show anything it has been to demonstrate that all cases of infantile hydrocele are not present at birth, but begin

later in many instances. That the majority of cases of infantile hydrocele cannot be demonstrated to communicate with the abdominal cavity, and that, finally, with a strong intrinsic tendency toward recovery, the disappearance of the affection is much hastened by the antiseptic withdrawal of the fluid contents of the tunica vaginalis where communication with the abdomen cannot be demonstrated.

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CONGENITAL DEFORMITY OF THE NOSE.

BY E. H. BRADFORD, M.D.

The following case is unusual, and as such deserves to be recorded. It is one of a congenital defect in the shape of the nose, consisting of a depression in the median line of the nose, a broadening at its base, and a superabundance of skin, which gave a peculiarly disagreeable appearance to the face.

An examination by Dr. Langmaid and Dr. Leland of the internal condition of the nose failed to discover any abnormality. The child had been perfectly healthy, and there was no history of catarrh or any trouble of the nose during infancy or at birth. The deformity, apparently, was due entirely to a congenital malformation of the bones, the cartilage, and the skin.

There is no history of deformity of the sort among the parents or relatives of the child, and there is no cause known for this occurrence at the birth of the child, which was perfectly normal.

On palpation there seemed to be an unusual amount of loose skin over the nose. The color of the skin was normal, except that in the median line, and a little to the left, in the depression, the skin was whiter than elsewhere, looking the color of cicatricial tissue, though there was no other evidence of a cicatrix. The nostrils were wide, and the tip of the nose was slightly raised. The nasal bones seemed normal in length, but were abnormally widened. On feeling the cartilage over the bridge of the nose, in one spot the cartilage seemed softer than normal, as if there was a hole in the cartilage. The cartilage was, perhaps, thinner at this spot than is normal. This place was from an eighth to a quarter of an inch in diameter. In other respects the nose was normal, except in shape. It seemed to have a concavity in the median line, and about the middle of the nose, seen on profile. The alae of the nostrils spread more than is normal. The nose, however, was firm in resistance to any lateral pressure, and the septum of the nose seemed to be normal.

The eyes seemed wider apart than is usual, and the eye-brows had a slope to the inner side, characteristic of the Chinese.

The child was in perfectly good health, was three years old, and had no trouble in breathing through the nostril; and, in fact, appeared to be in no way incommoded by this deformity.

¹ Read at the Meeting of the Surgical Section of the Suffolk District Medical Society, November 5, 1890.

The operation showed, after dissection of the flap, that there was no actual deficiency in the cartilage over the bridge of the nose. In one place there seemed to be a lack of great resistance, but there was no palpable defect. The incision was enlarged so as to reach to the root of the nose, and the nasal bones were found to be perfectly sound and normal, though widened somewhat. An examination by means of a probe of the inner side of the nasal cavity, showed that there was no obstruction there. Tampons of iodoform gauze were placed inside of the nostrils, and the operation carried on, with the patient held in an upright position, so that the bleeding should not fall into the mouth. After the flaps were held widely apart, a slight incision was made through the middle line of the cartilage down to the mucous membrane, but not through the mucous membrane. An osteotome was applied to the side of each of the nasal bones, near the insertion on the superior maxillary; and, by a blow of the hammer, these bones were divided nearly through, so that with pressure they could be broken at the point of incision, care being taken that the lachrymal duct should not be interfered with. After these were loosened, by slight lateral pressure the cartilage could be pinched up so the bridge of the nose was higher than before, and in a normal position. A button suture was passed directly through the nose, from one side to the other, passing through the skin and the septum. The superabundant skin was removed along the median line, and iodoform dusted along the line of the incision, and the whole covered with collodion, the skin having been previously sewed up by a buried suture of fine catgut. At the end of three days the button suture was removed; at the end of ten days the collodion dropped off, and the wound was found entirely healed. The deformity was almost entirely corrected. The depression was removed, the widening at the tip of the nose and at the bridge of the nose was corrected, though at the base of the nose and between the eyes undue width still remained.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

CIRRHOSIS OF THE LIVER IN CHILDHOOD.¹

In Canada Howard has recorded two cases; Germany presents eighteen; England forty-four; France fifteen; the United States eight; Ireland four; and India one. This recapitulation will serve to show how very rare is the disease: Flint, in a personal communication to Howard, remarks upon its exceeding rarity in the United States. Edwards presents a study of cirrhosis in the *Archives of Pediatrics*, July, 1890, with a report of one case and a tabulated résumé of the literature. The slight effect that alcohol has in these cases is illustrated by the fact that its habitual use is mentioned only eleven times, its absence being noted in fifty cases, and no mention being made of it at all in thirty-three instances. Six times it is recorded as probable. The infectious fevers play a more important rôle in the etiology of the disease; the hepatic derangements of fevers may, and often do, persist after they have subsided, and this is said, independent of syphilitic contamination or alcoholic abuse, to produce chronic interstitial hepatitis.

¹ American Journal of Medical Sciences, October, 1890.

Hebrard has recorded one case of interstitial hepatitis following measles, with microscopic studies presenting infiltration by newly-formed connective tissue, distention of veins and arteries, and much fatty degeneration; Klein has examined eight examples of acute interstitial hepatitis in scarlet fever cases. The case reported by Edwards would seem to be an example of cirrhosis following the infectious fevers, as the child (aged ten) was not syphilitic and was non-alcoholic, but had suffered most severely from measles and scarlatina.

Howard has collated six cases in which cirrhosis seemed to be part of a general fibroid change, and one case in which Gull and Sutton's arterio-capillary change could be considered as a causative agent. Tuberculosis may cause an hepatic cirrhosis. Of late years faulty digestion and the alkaloidal products of albuminous decomposition—the ptomaines—have been regarded as a possible cause of interstitial hepatitis, although the matter is as yet *sub judice*.

Regarding the disease as it occurs in childhood, it may be either atrophic or hypertrophic, and not unusually the so-called mixed cirrhosis is met with; some observers regard the latter as rather the usual form in childhood. The age of greatest frequency is from nine to twelve years; males are more affected than females, in the proportion of almost two to one. The symptomatology differs but little from the adult; the symptoms at first are apt to be confounded with simple congestion. Digestive troubles exist, abdominal pain, slightly augmented by pressure, alternating diarrhoea with constipation, increase in the size of the liver, slight ascites, dilatation of the subcutaneous abdominal veins, and slight jaundice or a subicteroid tint of the face. Stigmata, composed of collections of dilated minute venules may be observed on the face; their presence should suggest an examination of the liver, with special reference to the probable existence of cirrhosis.

A large proportion of the cases of infantile cirrhosis present irregularities in the temperature curves. The case that we are considering presented a temperature which, within a month, fluctuated between 100° and 97.6° F. It was quite as apt to be subnormal as elevated. The prognosis and treatment are as in the adult. Within the last eighteen months cases have been reported that appear to show that the prognosis is not as hopelessly fatal as we have formerly considered it.

MASTOID DISEASE IN CONNECTION WITH EAR-TROUBLE.²

According to the author disease of the mastoid process is, in general, an affection accompanying either an acute or chronic disease in the middle ear, in which a definite and thorough line of treatment is called for. Unfortunately, such a plan is not always pursued, and the patients must be the worse to a corresponding degree. Since in most cases the chief cause of the disease consists in the retention of pus in the ear, it becomes of first importance to allow it to escape freely. The indications, therefore, are paracentesis of the drum membrane at the proper time, dilatation of an existing perforative opening, the use of Politzer's method, so that permeability may be established through the auditory canal as well as through the Eustachian tube. In

² Archiv. f. Kinderh., xi. 4. Snell: Archives of Pediatrics, Nov. 1890.

a case which was narrated and in which this treatment was followed, as the pus was evacuated the dizziness and pains from which the patient had suffered four years, disappeared, and complete healing resulted.

Another case was a girl fifteen years old, who had suffered for two years from a frequently recurring affection of the ear with violent pains, including pain in the neck. When the pus was evacuated the pain ceased, and began again when the pus no longer flowed. At the mastoid process and on the neck there was evident only a slightly red and sensitive tumor. The external auditory canal was swollen; there was permeability of the Eustachian tube and perforation of the drum membrane. Under the use of cataplasmas and leeches, cleansing of the ear with warm boracic acid solution, and the Pulitzer inflation, the swelling disappeared and the pain ceased. In addition to the means which have been recommended, applications of iodine or of belladonna may be used. The swelling in some cases is excessive, extending over the head and neck. And the pain is sometimes attended with delirium, fever, etc. If these measures which have been referred to are insufficient, the suppuration extending into the drum cavity and the mastoid cells, the swelling increasing and the ear-muscles standing out from the head, while the sensitiveness becomes even more acute, then must operative measures be undertaken. An incision (Wilde's) may be made behind the ear, and the mastoid process may be perforated to give exit to the accumulated pus and prevent closure of the wound, through which a portion of diseased bone will probably come eventually. The incision should be made as far forward as possible, just behind the insertion of the auricle. The wound should then be dilated with a sound or a knife to find out the condition of the bone.

THROMBOSIS OF THE CEREBRAL SINUSES FOLLOWING OTORRHEA.⁸

The patient was four years of age, had had no previous illness until three months before, when a slight discharge was noticed from the left ear. Following this the child had measles. From that time he lost flesh and strength. Just previous to coming under observation he had several severe convulsions, had been stupid, and had not spoken or taken notice of his friends. On examination, he was emaciated, tongue foul, teeth covered with sordes, bowels constipated. He was semi-conscious, and occasionally had slight convulsions, in which the left arm was chiefly affected. There was no drawing of the face; the pupils were equal; there was no squinting. No retraction of head and no tenderness.

The patellar and plantar reflexes were present, equal and normal. There was no anesthesia or analgesia. Tache cerebrale could easily be shown. There was a purulent discharge from the left ear. The urine contained a trace of albumen. Following this there were several convulsions and a steady rise of temperature for two days. Then there was a surprising return of consciousness. Examination of the chest showed dulness and crepititation over base of left lung. One week after admission the mouth was noticed to be drawn to the left. Trembling of the left hand resembled the oscillations of paralysis agitans rather than the wide-jerking movements of chorea. When the

child was lying undisturbed these tremulous motions ceased, but became exaggerated when the limb was raised, and were then accompanied by tremulous movements of the face. Death occurred three weeks from the date of admission. The post-mortem showed thrombosis of the cerebral sinuses. There were numerous small abscesses in the lungs apparently from infarctions. The longitudinal and lateral sinus contained well-marked decolorized thrombi. In the latter they were soft; in the former firm. There was pus in the left tympanum and in the mastoid sinuses. There was no perforation of the membrana tympani, and there was no necrosis of the petrous bone.

CHLORODYNE POISONING THROUGH THE MOTHER'S MILK.⁴

A case is reported in the *Australasian Medical Gazette* recently of a woman who had given birth to twins, and was suckling them both. One evening she took a dose of chlorodyne, for relief of pain, and soon after taking the drug suckled the infants. The children were found the following morning profoundly narcotized, and died before evening. [The dose of chlorodyne taken is unfortunately not reported.]

DILATATION OF THE HEART AT THE TIME OF PUBERTY, AND ITS COMMON OCCURRENCE IN GIRLS.⁵

The author desires to direct attention to a certain group of symptoms which not unfrequently occur at the time of puberty, and to a plausible explanation of the same. He has in recent years observed eight cases (including a boy of fourteen, five girls between ten and fourteen, one girl at sixteen, and one at eighteen), in which these symptoms were prominent. Most of them had grown tall very rapidly, and in none of the girls was menstruation normal. The symptoms consist in debility, want of energy, palpitations, dyspnea after exertion, and disagreeable sensations in the region of the heart. In most of the cases there was weak pulse, diffuse heart impulse, with a weak first sound, and an accentuated second pulmonary tone. In two of the cases there were functional systolic murmurs. There was hardly enough dilatation in most of the cases to suspect insufficiency of the mitral valve.

These phenomena may be made to disappear entirely within a few months, by the use of appropriate treatment, which should consist of regular physical exercise without over-exertion, a nap for at least two hours every day, and the internal use of iron. The food should be abundant and nutritious. The explanation of these phenomena is to be found in the great changes which take place in the heart and great vessels at the time of puberty, as shown by the measurements which were made by Beneke. During the first years of life the heart gains eighty per cent. in volume; while between the seventh and fourteenth years it is only eight per cent. At puberty it again gains eighty to one hundred per cent. in volume. If the changes incidental to puberty take place in one year, the heart doubles its volume in that time; if in two years, the increase in volume occupies two years of time; if in five years, the increase in volume would be only twenty per cent. yearly; in a word, the development of puberty is accompanied by a *pari passu* increase in the volume of the heart. The conclusion from the foregoing is that when the heart is not in condition to develop rapidly,

⁸ Lancet, January 18, 1890. Tirard: Archives of Pediatrics, August, 1890.

⁴ American Journal of Medical Sciences, September, 1890.

⁵ Archiv. f. Kinderh., xi, 4. Pitt: Archives of Pediatrics, November, 1890.

the phenomena of puberty must be protracted. The consequences of the great efforts which are placed upon the heart at this period are manifested in the common occurrence of a slight degree of dilatation and in deficiency of heart-energy, which is especially noteworthy in individuals who grow rapidly at the time of puberty. In such persons, the changes of puberty are often prolonged or are incomplete, which is a direct consequence of the unsatisfactory increase of the blood-pressure. Symptoms of heart weakness are not generally found in children who have passed the experience of puberty quickly. Girls are more apt to suffer than boys, because between the ages of eleven and twelve they are weaker than boys. Between the ages of thirteen and fourteen they overtake the boys in point of physical vigor, while between fourteen and fifteen the boys again gain the ascendancy, continuing to grow, while the majority of girls do not.

(To be continued.)

REPORT ON PROGRESS IN DERMATOLOGY.¹

BY JOHN T. BOWEN, M.D.

FEIGNED SKIN DISEASES.

APROPOS of two cases of feigned skin disease recently under his charge at the hospital, Mr. T. Calcott Fox² took occasion to make this the subject of a clinical lecture in which many interesting cases were discussed.

Urticaria. — A very precocious girl, ten years of age, of an "excitable temperament and theatrical demeanor," had had for three weeks recurrent outbreaks of patches of an urticarial character, with a considerable amount of excoriation. These patches were all on the front of the body and face, and were few in number. The arrangement of the patches was such as one might expect if they had been produced by scratching. The child was detected in the act of producing a lesion, to which she called attention. It was found that wheals could be easily produced upon the skin; and the discovery of this had probably given her the idea of malingering, in order to attract attention.

Erythema Multiforme. — Cases are cited where marginated erythematous eruptions were caused by mustard paste and powdered cantharides. It is not very uncommon to find vesicating patches caused by the action of nitric and other strong acids, and in these cases the fluid exudation should be tested by litmus paper. In another class of cases there is added to the erythematous and vesicular appearances a gangrenous character, which may be produced by escharotics, as in the case of a servant girl, eighteen years of age, who presented several gangrenous patches on the chest. The writer expresses the opinion that some of the cases reported as multiple gangrene were, in reality, simulated affections. In extreme instances the gangrenous sloughs have, when separated, laid bare the tendons.

Excoriated Patches from Rubbing and Scratching. — Oval patches, wider than the finger, with broken edges are produced and are easily recognized. The neurotic excoriations of Erasmus Wilson, included some of these cases.

Eczema. — It is a singular fact that eczema appears to be very seldom feigned.

¹ Concluded from page 564 of the Journal.

² Illustrated Medical News, November 2, 1889.

Intractable Ulcerations. — Produced by picking and escharotics. An interesting case is related of a servant girl, nineteen years of age, who appeared on account of a bite from a dog received on the back of the left hand. The wound not healing for three months, she was admitted to the hospital, where the ulcer was scraped. The wound nearly healed, but in the course of a few months the ulcers recurred. The same thing happened again until a suspicion of the real nature of the malady being aroused, threats of an operation produced a speedy cure. Positive proof in this case seems to be wanting.

ERYSIPelas TREATED WITH ALCOHOL.

It having been claimed that ninety per cent. alcohol is, among other substances, a sure means of destruction for the erysipelas cocci, Behrend³ was led to make trial of this remedy by external applications, with the most gratifying results. As physician to a woman's prison, which constantly contained large numbers of women subject to recurrent attacks of erysipelas, and where every year numerous cases of severe type occurred in the form of epidemics, Behrend's opportunities for testing any remedy were of the best. All cases were treated at the outset solely by a vigorous bathing of the affected portions and of the adjoining healthy skin with ninety per cent. alcohol. The result was in every case without exception an immediate checking of the local affection with its total disappearance within from three to five days, and in the course of the two years during which this treatment was carried out, there was a great falling off in the number of days on which the prisoners were unable to work. It was impossible to judge of the effect of this remedy on more advanced cases, on account of its certain effect in the early stages. In a private patient subject to frequent attacks, Behrend has been able, by means of prophylactic applications of alcohol twice weekly, to ward off a recurrence up to the time of writing.

ARISTOL IN SKIN DISEASES.

Since Eichhoff introduced this drug into dermatological therapeutics, its praises have been sung so loudly that we are encouraged to believe that it will prove to be more valuable than the average new preparation. Its place has, however, not yet been determined, and reports of its efficacy do not entirely accord.

In estimating the value of any new dermatological preparation, reliance is to be placed chiefly on the statements of those who, having control of beds in hospital wards, are enabled to watch the results of treatment from day to day in a series of cases, and to compare them closely with those of other methods. Neisser of Breslau, a careful and accurate observer, has not been able to corroborate the enthusiastic recommendations of Eichhoff and others with regard to aristol, although he considers it of considerable value.⁴ In order to test the antibacterial properties of the drug, he experimented by mixing powdered aristol intimately with cultures of eight different microorganisms. After eight days the growth was found to be unimpeded. Mixed with aristol-ether ten per cent., some varieties appear to be destroyed, but the ether may in some instances, at least, be the effective agent. Ointments of aristol proved to have no antibacterial effect whether made with vaseline, olive oil or liquid paraffine and lanolin. Cultures mixed with these

³ Berlin. Klin. Woch., 1889, No. 4.

⁴ Berlin. Klin. Woch., 1889, No. 19.

preparations grew with great vigor, with the exception of those of the cholera microbe. Animals inoculated with these medicamented cultures promptly died. These results were not very encouraging, yet the previous experiences with iodoform, of undoubted efficacy, must warn against conclusions drawn from test-tube experiments, as to the action in animal organisms. His therapeutic attempts, which were made with the drug in powder, in ethereal solution, and in ointments of ten per cent., give the following results:

(1) Ulceræ mollia were in seven instances thoroughly treated with aristol powder, and with aristol-ether. The result was absolutely negative.

(2) No influence could be detected upon the gonococcus.

(3) A case of chronic eczema was not benefited.

(4) In lupus, the ulcerations were very favorably influenced, healing promptly and smoothly. On lupus nodules and surfaces not previously scraped no effect was observed, and he therefore regards it as not influencing the lupus process, *per se*, acting only to cause quick healing of the ulcer which has lost its lupoid character.

(5) Ulcers generally, as gummata, ulcerated scrofulodermata, abscesses that had been curetted, etc., healed rapidly and well.

(6) Lichen ruber in two cases was unaffected.

(7) Psoriasis. While aristol was found to have little effect primarily, the action of chrysarobin after its application was more speedy, and it should be accorded a place among the remedies for this affection.

No unpleasant results were experienced and but one instance was encountered, a case of psoriasis where it was not well borne.

TREATMENT OF KELOID BY QUADRILATERAL SCARIFICATION.⁹

In 1881, Vidal proposed to treat these obstinate growths by means of quadrilateral scarifications, and although his method has not been very universally adopted, he claims that it offers the best known means of alleviation. This writer states that keloid is often confounded with the hypertrophied scar, which resembles it in its external characters, but differs in its course and termination. The hypertrophied scar never spreads beyond the area of the loss of substance that gives rise to it, often undergoes resolution, and does not recur when it is wholly excised. Keloid, on the contrary, almost always recurs and resolution is exceedingly rare. Keloid is subdivided into spontaneous or primitive keloid (true keloid of Alibert) and cicatricial or false keloid, which has its starting point in a cicatrix, but extends beyond the area of the destroyed tissue. A mercurial plaster in the form of the *Emplastrum de Vigo*, he considers of some value, having twice seen cicatricial keloids disappear under prolonged application of this agent. Hypertrophied scars can be almost surely reduced by this method. In endeavoring to find a means for mitigating the suffering of a patient afflicted with spontaneous or true keloid, he was led to try the method of quadrilateral scarification, and from the first sitting the relief produced was very great. Observing that the keloid was disappearing, the treatment was continued, with the result of completely obliterating the growth. When the tumors are of recent growth six or seven repetitions of the scarification will suffice, but in larger

tumors the treatment must be continued for a long period, and the patients are prone to become disengaged. The scarifications should be made at right angles or obliquely, forming squares or lozenges: they should extend almost to the base of the growth, and overlap its edges by two or three millimetres only. The operation is done under local anesthesia produced by painting the part two or three times with liquified chloride of methyl. The loss of blood is trifling. The part is then dressed with cotton soaked in a solution of boracic acid, and the following day a bit of *Emplastrum de Vigo* applied, which is changed twice daily.

DURATION AND METHOD OF TREATMENT IN SYPHILIS.

Professor H. Leloir, the head of the dermatological school in Lille, this describes his customary method of treating syphilis.¹⁰

The primary lesion is locally treated by mercurial preparations, and constitutional measures are not resorted to until the appearance of secondary lesions, when daily treatment by inunction of from two to four grammes of mercurial ointment is begun, and continued for ten months. During this period attention is paid to local treatment also, mercurial plaster being applied to the lesions of the skin, ointments and lotions of mercury to those of the mucous membranes. In certain rebellious skin lesions, general baths, with about seven grammes of sublimate, are prescribed. The hygiene of the mouth is, of course, carefully considered, and the endeavor is made to strengthen the patient as far as possible. Where practicable a vacation in the country or by the sea is advised.

After from six to ten months of inunction, a period of rest is allowed for from three weeks to two months, and in this manner the treatment is kept up until the end of the second year. During this time an occasional diaphoretic or laxative is given, to avoid accumulation of the drug in the economy; and in exceptional cases, when there are violent pains in the head and in the bones, iodide of potash, to which bromide of potash is added, is prescribed for a short period. After the end of the second year he proceeds according to the severity of the case. If the patient has been for sometime free from syphilitic symptoms, inunctions for a period of ten days once in three months are given, together with two to three grammes iodide of potash daily for several weeks after the inunctions.

After the third or fourth year, provided his patient has been for more than a year free from specific appearances, inunctions are made twice yearly for a period of ten days, together with two grammes of iodide of potash daily for three weeks after each of these cycles of inunction. If the patient appears after the lapse of the fourth year, he is counselled, as a matter of precaution, to still continue the last method prescribed. Leloir avoids internal administration of mercury as far as possible, as he considers that unfavorable constitutional effects may be thus produced, and limits this method to those cases where concealment is necessary, or the skin very irritable, or where it is found impossible for any reason to carry out the inunction method. Subcutaneous injections of mercurial salts he employs very sparingly, and solely in hospital practice.

⁹ — Inquisitive old lady (to mother of crying infant) "First?" Mother (snappishly) "Last."

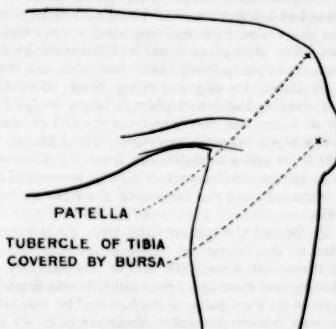
¹⁰ Monatsschrift. f. prak. Derm., Bd. xi, No. 6, p. 362.

Clinical Department.

A CASE OF ENLARGED SUBCUTANEOUS BURSA IN FRONT OF THE TUBERCLE OF THE TIBIA.¹

BY G. H. MONKS, M.D.

A LARGE-FRAMED man, with a large bursa on his right knee, came under my care in the Surgical Out-Patient Department of the City Hospital some two or three months ago. He was by trade a floor-layer, and had therefore spent a large part of the time during his work upon his knees. The location and appearance of the bursa suggested that it was entirely in front of the tibia and palpation confirmed this. In other words it was a case of enlargement, *not* of that bursa which is between the ligamentum patellae and the tubercle of the tibia, but of that one which is entirely in front of (anterior to) the tubercle.



The figure is an outline drawing taken from a photograph. The view represents the outer aspect of leg. The case is interesting as showing that the practice of long-continued kneeling *may*, in certain cases, cause the enlargement of this bursa (in front of the tibial tubercle) instead of the prepatellar bursa, the enlargement of which is so often seen in the common affection "known as" "housemaid's knee."

VALUE OF CYSTOSCOPY IN THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEY.

BY OTIS K. NEWELL, M.D.,
Surgeon to Out-Patients Massachusetts General Hospital, Boston.

THE accumulating evidence from those who are accustomed to frequent use of the cystoscope, is clearly demonstrating its great value under certain conditions in making the differential diagnosis of surgical kidney diseases. At first thought, one might not imagine that there were many ways in which the cystoscope could thus be of value, but on considering certain points its usefulness will readily be seen. Nitze in a communication before the Berlin Medical Society on October 29, 1890, on this subject, brought out some very strong points, most of which he illustrated by the report of cases. His remarks may be briefly summarized as follows:

¹ Reported at the meeting of the Surgical Section of the Suffolk District Medical Society, November 8, 1890.

"In the first place we are enabled to determine with the cystoscope whether or not two uretal orifices are present, which is of great importance in those cases where a second kidney does not exist. We are enabled to see whether or not both orifices empty fluid into the bladder, and further we can observe by extended observation whether the fluid comes in equal quantity from both sides, whether it is clear or cloudy, and in the latter case whether the cloudiness is due to the admixture of pus or blood."

Nitze substantiated his statements with the report of six cases. They were in brief as follows:

CASE I. Patient, an elderly man who had repeated attacks of haematuria. All of the ordinary methods of physical examination gave negative results. Examination with the cystoscope revealed a healthy bladder wall, thus showing the disease to be in the upper urinary tract. The autopsy six months later showed the existence of a sarcoma of the kidney.

CASE II. A woman in whom, aside from profuse haemorrhage, physical signs were entirely negative. Cystoscopy revealed a healthy bladder, excepting that the very peculiar condition was noticed of a prolapsed ureter on the right side, just as is seen in prolapsus ani. This was undoubtedly caused by the profuse flow of blood which, in its passage through the ureter, had distended it, and thus brought about the prolapse. Post-mortem examination established the existence of a renal carcinoma.

CASE III. Likewise one of very profuse haematuria. The bladder was found to be healthy but during the examination it was noticed that the blood was poured out from the left ureter. Operation was refused. Later the tumor became palpable, which was not previously the case.

CASE IV. In this young patient, who had been crushed for stone in several hospitals, it was found that there was no stone in the bladder. It was, however, shown that immense quantities of purulent matter mixed with urine were poured into the bladder from the left ureter. The diagnosis of severe pyelo-nephritis of the left side was thus established, and the operation of nephrotomy safely performed.

CASE V. A patient who had suffered for years from severe pains in the right renal region, at times intermittent, and at times continuous. On account of a journey over a rough road haematuria was started and a cystoscopic examination while this was still present showed that the bleeding came, not as was supposed from the right, but from the left side. The case is not yet explained as it has not come to operation, but the presumption is, either that the patient had not correctly located the pain, or that calculus exists upon both sides.

CASE VI. Woman, eighteen years of age, had repeated attacks of severe haematuria. Digital examination of the bladder gave no satisfactory indication of the source of the bleeding. By cystoscopic examination it was found that the bladder was sound, but that from the right uretal orifice stream of blood was being steadily poured. On the ground of the diagnosis thus established, nephrectomy was successfully performed.

I have had four similar cases where the existence of the disease was proved to be above the bladder,—one in particular examined for Dr. Maurice D. Clark of Haverhill, where, in an elderly woman, with no positive physical signs other than profuse haematuria, the bladder was found to be free from disease. The right

uretal orifice was especially prominent. The other cases also gave only the evidence of absence of bladder source for the symptoms, and presented no such striking points of suggestion as those quoted from Nitze. None of them have yet come to operation or post-mortem examination.

In cystoscopic examination of the bladder one of the first and easiest things to distinguish, after the vessels in the vascular wall, is the uretal orifice on either side. When the distension fluid can be kept clear long enough for an examination of a few moments, any flow of blood or cloudy urine from the uretal orifices can be readily seen. Clots over points on the bladder wall from which hemorrhage has previously come are frequently noticed.

In the conclusion to be drawn from these facts I decidedly agree with Nitze that the cystoscope furnishes a most valuable means of aid in the diagnosis of renal affections and that through it the prognosis of cases may be improved by bringing them earlier to the surgeon for operation.

Reports of Societies.

SURGICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

GEORGE H. MONKS, M.D., SECRETARY.

REGULAR Meeting, Wednesday, November 5, 1890,
DR. E. H. BRADFORD in the chair.

DR. R. W. LOVETT read a paper on

HYDROCELE IN CHILDREN, WITH A REPORT OF CASES.¹

DR. M. H. RICHARDSON said: Dr. Lovett has not spoken of a common method in use, at the Massachusetts General Hospital. I dare say it is spoken of in all the books, though I do not remember having seen it; — that is the very successful method of tapping by means of a glover's needle. Numerous punctures through the skin and the tunica vaginalis allow the fluid to escape from the sac into the surrounding tissues, and in large drops through the skin. I have tapped a good many in that way with excellent results. My last case, however, was not successful, and the fluid returned, and there was quite a large collection of it. The question of a radical operation was considered, but it was finally decided best to wait a while till the child got older to see if the fluid would not disappear ultimately after a second tapping. This case I have not seen since. I should certainly agree with the writer, that any very severe operations were not justifiable, in view of my experience with the glover's needle treatment, and I certainly should not like to inject into the tissues of a child any irritating substances as we do in adults.

DR. G. H. MONKS showed photographs of a patient with

ENLARGED SUBCUTANEOUS BURSA IN FRONT OF THE TUBERCLE OF THE TIBIA.²

DR. RICHARDSON said: The bursa involved here is in front of the insertion of the ligamentum patellae, and I remember a case where this bursa was enlarged to the size of an orange. It gave no inconvenience

whatever, but acted as an efficient pad in kneeling, and the man demonstrated this by suddenly dropping with all his weight upon his bent knee, and resting on this bursa as on a cushion. I saw this case a number of years ago, and it made quite an impression on me. The sac must have been thick and strong. The bursa usually enlarged is that over the patella. There is another between the ligamentum patellae and the top of the tibia, and thirdly, this one — I don't know how constant it is — directly in front of the insertion of the ligamentum patellae into the tubercle of the tibia.

DR. MONKS also showed a patient, a man of fifty or thereabouts, upon whom he had operated for the relief of that

ENORMOUS HYPERSTROPHY OF THE NOSE,

which is occasionally noticed in connection with acne rosacea hypertrophica. Before the operation the skin was red and filled with comedones and pus. Union by first intention was, therefore, out of the question. The forehead and cheeks were covered with acne pustules. Four times the nose was operated upon, twice with ether. The skin of each ala was dissected back, and the excess of underlying tissue removed, and the skin flap replaced, its edges having been trimmed off. When healing had taken place, a large, wedge-shaped piece of tissue was removed from the end of the nose and the edges brought together. The incision, when stitched, formed a straight line from the root of the nose to its tip. Subsequently a large amount of tissue was removed from the bottom of the nose around the nostrils.

The nose of the patient had been greatly reduced in size by the operation. Before operating it measured three and one-eighth inches transversely from ala to ala, and after the operation this was diminished to one and three-quarters inches. The size of the nose was correspondingly diminished in its other diameters. The acne pustules had been successfully treated with sulphur ointment.

DR. F. B. GREENOUGH: I think this is a very successful, and more than that, a wonderful result. It is not only that a satisfactory nose has been made, but the enlarged sebaceous follicles, which must have existed, are apparently in a comparatively normal condition now.

DR. E. G. CUTLER: Dr. R. M. Hodges once operated on a case like this, apparently quite as bad, if not worse. He did two operations, and got a very successful result. I was present at the operations. There was a good deal of hemorrhage in the first one, not so much in the second. He took out elliptical portions of skin and drew the edges of the wound together. He had arranged to do three operations, but the patient thought he looked well enough as he was after the second operation, and, therefore, refused a third one.

DRS. E. G. CUTLER and M. H. RICHARDSON presented a paper on

A CASE OF DIGITAL DILATATION OF THE PYLORUS FOR CICATRICIAL STENOSIS.³

DR. NEWELL: I should like to ask Dr. Richardson what would be the objection to excising the pylorus in a case where the patient could have stood the operation.

DR. RICHARDSON: I think the objection to that

¹ See page 584 of the Journal.

² See page 591 of the Journal.

³ See page 581 of the Journal.

procedure is very obvious. Resection of the pylorus is one of the most formidable of operations. The mortality is large. Gastro-intestinal anastomosis is better. If you use silk and substances in the stomach that are not quickly digested, you have a very safe method of establishing communication. Abbe has shown a number of specimens in which he established communication between different parts of the intestine and the opening is a beautiful one. It can be made as large as desirable; the communication is good and the danger slight. In some of these cases the anastomosis between the stomach and the intestine is more dangerous than between different parts of the intestine on account of the digesting power of the stomach, and the extravasation of the stomach contents. I think, however, that it is very much less dangerous than resection of the pylorus.

DR. A. T. CABOT: I have been very much interested in the complete report of this case in which I was interested at the time, as well as in another which I saw with Dr. Cutler in the wards of the hospital the previous year. I was particularly interested in seeing the demonstration Dr. Cutler was able to make of the dilated stomach, the fluid flowing into the greater curvature of the stomach, and being perfectly demonstrable as it gradually filled it during the washing process.

In regard to the operation, enough time has elapsed since the first cases were done to give us some idea of the permanency of the results, and unfortunately they are shown to be not permanent. The cases are frequent in which there have been recurrences. I had letters from Dr. Huntington at the time of his first operation, and subsequently he wrote me he had had to do it again, and five or six months after that, if I remember correctly, he said the patient continued well, so that the patient has had already a long immunity. What Dr. Richardson has said about the recurrence of the stricture where cicatricial tissue has been stretched and not divided, is very true, and I have for some time been doubting whether a gastro-enterostomy would not be the best for these cases. It seems to me that an operation which entirely switches the pylorus off, and establishes a communication below the pylorus so that the food gets around it, promises something. The disease does not kill except by starvation, and anything which restores the capacity for alimentation cures the patient. All of the cases that have been successful I think have shown their success by great increase of weight. It is a very different condition of things from the malignant stricture. I think that for use in the stomach I should be inclined to choose rather than either Senn's plates or Abbe's rings the rubber ring of Brokaw, of St. Louis, that having more permanence, if held together with something a little more insoluble than catgut, something like Dr. Marcy's favorite tendon or possibly fine silk. One of these rubber rings gives very little disturbance afterwards in the passing. I agree with Dr. Richardson that the operation was, so far as it went, perfectly successful. I do not think the patient died because he had let it go for about two months too long. He put off the operation for three weeks after I first saw him, although he was then strongly advised to have it done at once.

DR. CUTLER: In April, 1880, there was held in Bologna, the Sixth Congress of the Italian Society of

Surgery, and during that meeting a gentleman in the course of his speech took occasion to say that after division these cases did not contract, but there are not a sufficient number of cases given for another to draw a like conclusion. He simply made this statement without giving any details. Robert Hazard in the *British Medical Journal*, of December 21, 1889, says of his case: "I am pleased to state that it is now just four years since I performed the operation. My patient is still in perfect health, showing no signs of any pyloric recontraction." There are, it seems, two English cases not included in Dr. Bull's report which appear to have been successful. I agree with Dr. Richardson that gastro-enterostomy appears to present a more favorable outlook than any other operative procedure.

DR. R. H. FITZ reported a case of

PERFORATING GASTRIC ULCER; CIRCUMSCRIBED PERITONITIS; DEATH ON THE FIFTEENTH DAY:⁴

and showed the specimen.

DR. M. H. RICHARDSON: I saw this woman Sunday night as she entered the hospital, and she presented then the symptoms which I saw in a case of perforation of the colon some years ago, where I opened the abdomen and found fecal extravasation. It was a good case it seemed at the time, and especially a few days later, for an exploratory operation, and we were anxious to do it, but the woman refused entirely.

DR. CUTLER: I saw the patient with Dr. Fitz, and there seemed to me to be no question whatever as to the diagnosis. The case presented all the clinical features which belong to a case of that sort. I did not see the patient after the first day.

DR. E. H. BRADFORD reported

A CASE OF CONGENITAL HYPERSTROPHY OF THE NOSE.⁵

A resolution relative to the death of Dr. HENRY J. BIGELOW was offered and accepted.⁶

DR. A. T. CABOT was by acclamation chosen Chairman of the Section for the year next ensuing.

**THE NEW YORK ACADEMY OF MEDICINE.
SECTION ON THEORY AND PRACTICE OF
MEDICINE.**

STATED MEETING, November 18, 1890. FRANCIS DELAFIELD, M.D., Chairman.

DR. J. C. MINOR read a paper on

THE INDICATIONS FOR TREPHINING IN EPILEPSY.

By the administration of drugs and the careful regulation of diet, exercise, and general hygienic measures, he said, we might hope to cure about one-half of all cases of epilepsy, which experience had shown was not an affection that disappears spontaneously. It was among the other half that surgical procedure had its field. While, however, all epileptics were subjected to medical treatment, only a small proportion of those unrelieved by such treatment came under the observation of the surgeon. Of these, a majority were rejected, as not appropriate subjects for operation; but of those who were operated on, more than one-half

⁴ See page 583 of the Journal.

⁵ See page 586 of the Journal.

⁶ See page 474 of the Journal.

were cured, over one-sixth were relieved, about twenty per cent. died, and about three per cent. were neither better nor worse for the operation. Within the last ten years the mortality had been largely decreased by the application of antisepsics to brain surgery, and the favorable results had increased in equal proportion.

The conclusions reached by Dr. Minor from his study of the subject were as follows:

There are three main indications for trephining in epilepsy that hold good, provided medical treatment or the removal of peripheral irritation by other methods fails to cure or relieve.

(1) In the distinctly traumatic epilepsies following depressed fractures and other lesions of the skull.

(2) In the traumatic epilepsies in which the only visible lesion consists of a scalp wound that is sensitive or tender, and upon which pressure develops either an aura, vertigo, or an epileptic seizure.

(3) In all epilepsies, whether traumatic or not, in which the character and development of the seizures is such as to indicate a definite motor area as the seat of a cortical lesion.

The contra-indications, he went on to say, were in brief, those that might be applied to cases of such long duration as to lead to marked mental degradation, to cases in which from the first the seizures had been general and sudden, to cases where the general symptoms indicated an extensive cerebral degeneration, and to cases where, in addition to any or all of these conditions, there was nothing in the symptoms or history of the case to indicate a definite or circumscribed lesion of the cortex that could be reached and removed.

As regards the whole subject of trephining in epilepsy, while there was no reason for satisfaction with the results of surgical treatment in these cases, he was quite sure that one of the plainest lessons taught by all this experience, was that of the added dangers and difficulties that arose from unnecessary delay in resorting to surgical treatment. Certainly in traumatic epilepsy it was unwise to wait until the increased frequency of the seizures had reduced the patient to an imbecile or idiotic condition before adopting surgical methods of relief. Long before this stage had been reached, any competent physician could determine with sufficient accuracy the prognosis of a case of epilepsy under medical treatment; and the proper time to operate began as soon as it became evident that other methods were ineffectual. While it was unwise to advocate undue haste in operating upon these cases, it was equally wrong to defer the operation to such a degree as to materially diminish the chances of recovery.

Surgeons themselves had been led to delay the operation, because the mental symptoms were not very marked, because the seizures were not repeated every day, because the progress of the disease was not very rapid; and, finally, after all this had been reversed, the mind impaired, the seizures frequent, and the progress of the disease accelerated, so that the patient's chances of recovery had been greatly diminished by these complications, then the failure of the operation to relieve the condition, had contributed to the very prejudice and conservatism that distinguished the treatment. There could be no question, he thought, that the best results follow the earliest operations, and these results applied not merely to cure or relief, but also affected the question of mortality. It was, therefore, important to bear in mind that the persistence of

the primary lesions has a marked influence in determining later and graver symptoms, and that if an operation was needed at all, the sooner it could be done the better for the patient.

DR. ROBERT F. WEIR said that nothing could be added to the rules for surgical interference laid down by Dr. Minor in his paper. The indications thus presented would, he thought, be accepted as just as by all the principal authorities at the present time, and were in entire accordance with those given by Bergmann in his last lectures. While he had had quite a number of cases himself, he did not feel at all justified in speaking on this subject from his own experience, and he did not think that any one, not even excepting Horsley, had met with a sufficiently large number of cases to enable him to arrive at any positive conclusions from such experience alone. There was one point which was somewhat discouraging, and that was the fact that the mortality from operation still remained so high, ranging from twenty to fifty per cent. It must be remembered, however, that brain surgery was as yet a comparatively new field, and that many of the fatal results occurred under the hands of those who were operating for the first time. Even among the more experienced operators he thought more violence than was necessary was not infrequently employed. But these were errors which would be corrected, at least to some extent, as time went on; and he had no doubt that in the future better results would be reported than had as yet been attained.

DR. ROBERT ABBE, who was to have taken part in the discussion, was unable to be present and sent a letter in which he said: My experience is limited to two trephining for traumatic and two for idiopathic epilepsy. The cases of idiopathic trouble were victims of degenerating mental state, both being boys of about twelve years. One was often violent after his attacks. I operated less than a year since upon him. The attacks ceased, and his mental state improved. After six months there was a return of his malady, and he required restraint in an asylum. At the operation I opened the dura and found the meninges in a condition of engorgement, and also edema, suggesting a low grade of inflammation, or at least one of irritation.

The second case I operated on only three weeks since. There were half-a-dozen attacks daily. The meninges were also in much the same condition as in the former case. The attacks ceased at once. Primary union of the wound occurred, and the lad was taken to Nova Scotia by his father, who is a physician. No recurrence has yet been reported.

I feel strongly conservative in regard to the operation for functional epilepsy; but believe it may be and should be tried, with expectation of temporary relief, at least, in cases of a severely progressive or degenerative type.

DR. E. D. FISHER said that many of these traumatic cases occurred in children affected with spastic hemiplegia. Although in so many of the cases there was a one-sided lesion, the attacks for the most part were general in character, not being in any way localized. He had himself seen thirty or forty such cases. When a scar was present it was generally found that no change whatever was produced by pressure on the scar. It was a question, therefore, whether the removal of this scar would be warranted or would be a good thing to accomplish. In these cases of epilepsy

with spastic hemiplegia in children it had been advised to trephine, and reports had been published to the effect that as a result of the operation the mental condition had improved, and the seizures had disappeared.

There were two questions which he said he should like to put to Dr. Minor. In the first place, when a scar was present, but when no irritation apparently resulted from it and the attacks were general in character, would he advise operation? In the second place, he should like to ask whether trephining irrespective of any local seizure would be warranted. This he knew had been done, and if the operation was performed with ordinary care and adequate antiseptic precautions he did not think it was attended with any special danger. It seemed to him that in these extreme cases we were justified in trying to do something for the relief of the patient.

He then mentioned a case that he had met with where the epilepsy resulted from the kick of a horse. In such a case, he said, we would naturally expect to get good results from operation. Yet after a few weeks subsequent to the trephining, the patient was as bad as ever, and there had been no improvement since. The point of chief interest to him about this whole matter, was whether in idiopathic epilepsy without a localized seizure we were warranted in resorting to operative interference. His experience would certainly teach him that in instances where blows or other injuries apparently lie at the bottom of the trouble, the cases are apt to go on to general epilepsy.

Dr. Fisher said that it had always seemed strange to him that while injuries to the brain frequently caused epilepsy, surgical operations upon it were not followed by this affection. He had never seen epilepsy produced as a result of experimental investigations upon the brains of animals, such as dogs, monkeys, etc.

DR. LANDON CARTER GRAY said that like Dr. Weir he thought that Dr. Minor had presented the subject with good judgment. But still the question arose at the very outset, What is epilepsy? We knew very well that it was merely a symptom, just as fever and cough were. We might search through the whole range of neurology, however, without being able to find out what it was a symptom of. This was a point that had never as yet been determined. Another question of importance was, Whether when a reflex, peripheral, or other cause had been removed, the epilepsy would not continue.

In the third place, it had been found that epilepsy was apt to be relieved by any operation upon any part of the body. In fact, any strong impression upon the peripheral nerves would be likely to have this result. This being the case, we were not in a position to judge of the permanency of the cure or relief in a vast majority of cases of operation, because the subsequent histories of the patients were not given for a sufficient length of time following the operation. It was, moreover, a well-established fact that many cases of epilepsy would go spontaneously for months and years without a fit. The trouble practically ceased for these long periods. At the time when phimosis was considered of so much importance he had seen the operation, for the relief of this condition, do quite as much good in epilepsy as had ever been reported from trephining. In the same way, he had seen the removal of a piece of skin from the buttocks, have a most beneficial effect. When these things were taken into consideration, therefore, it could be seen that

there was considerable room for doubt as to the real efficacy of trephining.

Many of the cases of epilepsy dated back from infancy or early childhood when lesions were produced by porencephalitis or meningitis which it was utterly impossible to remove. In adults some cases were called idiopathic simply because no one had been able to determine what the pathological changes were. As to traumatic epilepsy, of course, if you could find a cicatrix and remove it, you might perhaps do good; but it was well to bear in mind that just as much good could be accomplished by the operation for phimosis. Even where there had been depression of bone the epileptic habit might continue after this condition was removed. In the brain we could now localize for a certain number of things, such as the extremities, speech, etc., but beyond this all was pure speculation.

In any case of epilepsy, however, it was certainly desirable to know whether the lesion was within reach or not. If the growing doctrine that cortical lesions alone give rise to epilepsy should prove correct, it would be a great point gained for the surgeon, and much might be hoped for the future. There was a certain amount of ground for this opinion, and that subcortical lesions do not produce any loss of consciousness. As he had said before, the histories of the cases of operation were, as a rule, sadly lacking in completeness. He had seen cases of idiopathic epilepsy go for ten years without a fit, and others had reported cases which had no fit for twenty years. This whole question of operation in epilepsy must, therefore, be regarded as still distinctly *sub judice*, and any advance that might be attempted must be made very carefully and slowly.

DR. MINOR said, in closing the discussion, that the indications for trephining as he had given them had been drawn, not from any special theory as to the nature of epilepsy or its forms, but simply from the records of clinical cases. By judging from clinical experience he had tried to avoid any discussion as to its nature, and he had not consulted tables of statistics (all of which were imperfect) so much as the original reports of cases, as far as he could get at them. As to the matter of a scar, trephining, of course, caused a scar, and several cases were on record where the operation itself had been the cause of a reproduction of epilepsy.

In reply to Dr. Fisher's inquiry as to whether it was justifiable to operate in cases of idiopathic epilepsy when the convulsions were general and no scar was present, he said that he had trephined in one such case, and the patient was at all events no worse than he had been before. The place selected for the operation was over the fissure of Orlando, and he did not go below the dura mater. This was now over ten years ago. The question of cerebral pressure, due to a disparity between the skull and its contents came up, and the case was supposed to be one of too early ossification of the cranial bones. He thought that he was warranted in trying to relieve the patient by operation, but this was not followed by any result, and he was now in a lunatic asylum. After that he gave up the doctrine of cranial pressure, which certainly did not hold good in the case of the Flathead Indians, who he had never heard were especially subject to epilepsy. As to the presence of a scar being an indication for trephining, he thought that in his paper he had given about all the data that were warranted by clinical experience.

Recent Literature.

The Principles of Psychology. (American Science Series, Advanced Course.) By WILLIAM JAMES, Professor of Psychology in Harvard University. In two volumes. New York: Henry Holt & Co. 1890.

In his "Principles of Psychology," Dr. James treats his subject as a natural science, and to the exclusion of metaphysics proper, claiming originality, as he says, only in his strictly positivistic point of view, adding that his book is chiefly a mass of descriptive details running out into queries which only a metaphysician alive to the weight of his task can hope—perhaps centuries hence—successfully to deal with. The author brings to his task a fine enthusiasm, a wonderfully alert and original mind, great knowledge of facts, facility of expression, and a charm of language in which he has few equals. It would be impossible within our limits to adequately review fourteen hundred pages so compact with thought and learning. We desire especially to call the attention of physicians to the chapters on the functions of the brain, as being the best statement of that now absorbing subject. By judiciously skipping according to their several needs, to quote the author's words, many sorts of readers will find the book an interest to them and of use; and no physician is likely to put it down without a feeling of thankfulness that it has been written.

A System of Obstetrics by American Authors. Edited by BARTON COOK HIRST, M.D. Vol. II. Philadelphia: Lea Brothers & Co. 1889.

The second volume of this standard work has been for some months in the hands of the profession, and is already well known. It would seem that, however valuable the first volume, the second, from the nature of the subjects treated, will prove of even greater value and interest. The space at our command will not permit a critical notice of the different sections of the book; but a simple enumeration of authors and subjects will bespeak for them the interested study of the profession, even if on specific points the reader may not agree with the author.

Parvin writes on the diseases and accidents of labor; E. P. Davis on the forceps and on embryotomy. Cameron, of Montreal, treats version and the premature induction of labor. The Cesarean operation, symphysiotomy, laparo-elytrotomy, and laparo-cystectomy are very naturally treated by Harris; and Garrigues writes exhaustively and well on puerperal infection, and on inflammation of the breast and allied diseases connected with childbirth. The etiology of puerperal fever is learnedly treated by Ernst. The editor, Dr. Hirst, covers the complications of the puerperal state independent of septic infection; and Lloyd, of Philadelphia, writes on insanity and diseases of the nervous system in the childbearing woman.

The value of the work is much increased by the chapters on the management and the diseases of the new-born infant by J. Lewis Smith, the surgical diseases of infancy and early childhood by Stephen Smith, and the congenital anomalies of the eye by De Schweinitz.

We congratulate Dr. Hirst on the happy completion of his work.

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283 WASHINGTON STREET, BOSTON, MASS.

ETIOLOGY AND TREATMENT OF PLEURISY.

At the Third Congress of the Italian Society of Internal Medicine, held at Rome, October 20-28, 1890, the subject of the etiology and treatment of pleurisy was up for discussion: Patella, referee, and Luzzato, co-referee.

The first-named speaker stated that ten years ago but three kinds of pleurisy were distinguished: rheumatic, traumatic, and secondary (that is, supervening by propagation of an inflammatory process in the lung).

To-day we know that there are pleurisies of infectious, microbial origin. But sero-fibrinous pleurisy is still considered as rheumatic, and we cannot yet explain its pathogenicity without hypothesizing a pathogenic agent other than cold and chilling. It is probable that the chilling only prepares the soil for the microbial infection by modifying in some way the circulation in the blood, vascular and lymphatic system. But how do the pathogenic germs penetrate to the pleura? This is a question which is quite difficult to answer. At the same time, Fraenkel has shown that one of the microbes of purulent pleurisy, the encapsulated, lanceolated micrococcus, is found in the tonsils, whence, by the intermediation of the lymphatic channels, it may gain access to the pleura. We may, then, admit this same way of penetration for the microbes of sero-fibrinous pleurisy.

Although, in many cases of sero-fibrinous pleurisy, bacteriological researches have remained unfruitful, we should be on our guard against concluding that this affection is not of microbial origin. These researches should, on the contrary, be extended and care should be taken to puncture very low down, for the microbes are often deposited at the lower part of the exudation.

According to Ziemssen, there are pleurisies which are not of bacterial origin as, for instance, the pleurisy which comes on in the course of acute rheumatic polyarthritis. The reader did not believe that the cases where the negative result of bacteriological researches cast

doubt on the microbial origin of the disease were really cases in which microbes had no causal agency, and he reminded his audience that it was often impossible to detect the presence of tubercle-bacilli in pleurisies with abundant effusion, the tuberculous nature of which, was, at the same time, indubitable. This fact is explained by the peculiarities of the anatomical structure of the tubercle, which, till it becomes softened, does not allow the bacilli to escape.

Maragliano has shown that a tuberculous pleurisy may engender a serous effusion, and Patella affirms that he has seen in tuberculous patients, pleurisies not tuberculous, which were due to Fraenkel's diplococcus.

The following conclusions sum up what the reader had to say respecting the etiology of primary pleurisy: (1) There exist sero-fibrinous pleurisies due to the encapsulated micrococcus of Fraenkel; (2) There are also pleurisies with abundant effusion, of exclusively tuberculous origin; (3) In tuberculous individuals, a pleurisy may sometimes take on a simple non-tuberculous form; (4) There exist also pleurisies of chemical origin, which are still insufficiently known; (5) It belongs to clinical rather than to bacteriological researches to determine the causes and nature of primitive pleurisies.

As for the pleurisies which develop secondarily to an acute pulmonary affection (meta-pneumonic pleurisies), their etiology is evidently that of the pneumonia. Their prognosis is generally more favorable than that of primary pleurisies.

Patella asks the question: Whether the spontaneous reabsorption of a purulent effusion is possible? He says yes, when the empyema is produced by the diplococcus of Fraenkel. In all cases where bacteriological researches indicate the presence of this microbe, we may hope for the spontaneous resorption of the exudation.

Luzzato, of Padua, co-referee, said that among the pleurisies incontestably microbial the purulent forms have the first place. These often accompany puerperal fever epidemics. In regard to simple pleurisies (rheumatic pleurisy), he had nothing to add to what the previous speaker had said. But as far as the sero-purulent pleurisies are concerned, he remarked that in several cases he had noted the presence of the diplococcus. He had also found in the exudation certain granules, sometimes united in masses, which allow themselves easily to be impregnated by coloring matters. At the same time, attempts to cultivate these granules have always given negative results. Besides, he had been convinced that the serosity of pleuritic effusion is not a good culture medium. Lastly, he recalled to mind the researches of Salvio, which showed that the presence of the pneumococcus of pneumonia in the pleura may provoke sero-fibrinous effusions. The following are the conclusions which he believes to be deducible from all the facts known thus far respecting the etiology of pleurisy: (1) The pathogenic agents of purulent pleurisy are the staphylococcus, the streptococcus, the bacillus of tuberculosis, and also, though

very rarely, the bacillus of typhoid fever. (2) The sero-purulent pleurisies are rarely associated with tuberculosis.

Passing now to the treatment of pleurisy, Luzzato would, first of all, reject bleeding and mercury, those two old means still much in vogue in Italy. In fact, mercurial preparations, he says, have never given him any favorable result; as for blood letting, its pernicious influence on the effusion, of which it augments the quantity, is well known.

Medicines have generally little action during the febrile period of the disease. But the salicylates and antipyrrin, as well as flying blisters and cataplasms, may render some service. When the fever has ceased, active or passive movements, pure air, and pulmonary gymnastics, are of great utility.

Thoracentesis, done with the necessary antiseptic precautions, presents no danger. It is indicated when the effusion reaches in front the third rib and is slow to undergo resorption; he would never tap during the febrile period. A prominent indication for thoracentesis is excessive frequency of the pulse. When pyogenic microbes are the causal agents, thoracentesis should be replaced by thoracotomy. During the first days which follow this latter operation, it is well to abstain from frequent lavages of the pleural cavity.

Bozzolo, of Turin, observed that the microbe of typhoid fever provokes pleurisy oftener than one would suppose. He has seen cases whose diagnosis was doubtful till thoracentesis revealed in the pus of the pleuritic effusion the presence of the bacilli of typhoid fever.

The question of the treatment of purulent effusions is still much discussed, especially in Germany, where physicians are generally opposed to the operation for empyema, while surgeons favor it. He affirmed that in his experience, simple puncture for empyema has always failed to cure; here, costal resection is indispensable. The lung will often regain its primitive volume after resection, especially in recent cases, and where adhesions have not yet formed; but in inveterate cases with adhesions and perhaps pulmonary lesions, expansion of the lung is not likely to be obtained.

Maragliano, of Genoa, had found pleurisy very frequent in fibrinous pneumonia; in fact, pneumonia hardly ever exists without a pleuritic exudation supervening between the third and fifth day of the disease. The quantity of this effusion is generally insignificant; it is ordinarily thick and sero-fibrino-purulent. He advocates the early evacuation of these effusions between the second and third week of the disease. The exudation is rarely reproduced, or if reproduced it is always in minimum quantity. Resort to paracentesis enables one early to obtain a reduction of volume of the thorax, and saves the lung from the dangers of prolonged compression. As for purulent effusions, he has known them to undergo spontaneous resorption; he has faith in the simple puncture, repeated every eight or ten days until pus

ceases to be generated; this succeeds well in some cases.

Bacelli, of Rome, would limit simple thoracentesis to the treatment of sero-purulent exudations (pyo-thorax), while costal resection is indicated in empyema, where the exudation is frankly purulent and encapsulated.

Renzi, of Naples, said that in his bacteriological researches he had become convinced that pleurisies were caused, according to the prevalent epidemic constitution, sometimes by the diplococcus of Fraenkel, and sometimes by the streptococcus. Thus, during the last epidemic of influenza, streptococcus pleurisies predominated. He admits the curability of tuberculous pleurisy. Thoracentesis often causes the fever to cease immediately, and this result is sometimes obtained by the evacuation of a small quantity of the exudation. According to his observations, when pleurisy develops on the side of a lung affected with tuberculosis, it may have a salutary influence, though detrimental when occurring on the side of a sound lung, the other lung being tuberculous; in the former case, the morbid symptoms in relation with the tuberculous process often for the time disappear after evacuation of the pleuritic liquid.

Mya, of Sienna, has seen two cases of pleurisy with hemorrhagic effusion due to bacillus of typhoid fever.

Tomaselli, of Catania, had some faith in wet cups in the treatment of acute pleurisy. He employs also blisters and milk diet, and resorts to aspiration or thoracentesis only when the quantity of the effusion is large, or if resorption is slow.

Marino, of Messina, spoke of the benefits of compressed air in the treatment of pleuritic effusions; this agent he thought should be reserved for the sequelae of pleurisy; while Fazio, of Naples, thought inhalations of compressed air should be resorted to early to favor resorption of the exudation.

KOCH'S TREATMENT OF TUBERCULOSIS.

THE treatment of tuberculosis by Koch's method has now reached a stage in which our future knowledge of the subject and judgment of its merits must be of slow growth, founded upon the results of clinical experience, except that before very long we may expect to hear how the material is made. Those who have had the best opportunities for watching the results of the injections seem to have retained their enthusiasm for the wonderful effects produced in cases of lupus and surgical tuberculosis, whereas how much can be expected in tuberculosis of the lungs remains doubtful. There seems to be a growing feeling among them that for advanced pulmonary lesions, even disregarding the danger of the injection itself, little or nothing can be expected.

During the past week some of the fluid has been received in America, and the profession here will soon be able to record clinical results for themselves. In New Haven a small quantity had been previously received by Professor Chittenden and used by Dr. J. P.

C. Foster. The first injections were made in New York on Tuesday last, by Dr. Allan McLane Hamilton at the Hospital for Ruptured and Crippled, and later by Dr. F. P. Kinnicutt at St. Luke's and Dr. A. Jacobi at the Mount Sinai and German Hospitals. About twenty cases in all were injected, some of them normal, some with a doubtful diagnosis and others with different tubercular lesions. It is, of course, too early to study results in these cases, but the reaction seems to be about as described in Berlin. A non-tubercular subject shows sometimes a slight, sometimes absolutely no reaction after the injection of a small quantity of the material, whereas a tubercular patient exhibits a more or less severe constitutional reaction a few hours after treatment, and a characteristic local reaction in the neighborhood of the diseased tissue.

In some instances exceptional effects, observed elsewhere, have again been noted. Thus, in the case of a male adult patient at the German Hospital, suffering from pulmonary tuberculosis, the temperature rose to 105° two or three hours after the injection, though this marked elevation of temperature was of comparatively brief duration. On the other hand, in a young woman in the same hospital the subject of lupus, the temperature fell to 97°, after the injection, although marked local changes were produced by it. The same result as regards temperature was observed in a consumptive patient at the Mount Sinai Hospital. In the latter case, however, the fall of temperature was soon followed by the usual febrile reaction noted in tuberculous patients, and on the following day when the injection was repeated there was no reduction of temperature resulting.

The daily press and some medical papers continue to abound in articles on Koch's so-called "lymph," a word which, considering that the composition of the fluid is not known, is, to say the least, premature. From another point of view it would be unfortunate that this word "lymph" should be permanently fastened upon Koch's fluid; as it perpetuates the early and erroneous idea that the process is one of preventive inoculation, such as results from the introduction of the vaccine virus or "lymph." For the same reason the use of the word "inoculation" would seem to be contraindicated by our present information as to the character of the process which follows the injection of the fluid. The word "injection" is better, because non-committal. Although no advertisements have appeared, to our knowledge, claiming that Koch's material is used, a few of the advertising medical fraternity are making good and often ingenious use of the popular excitement on the subject to bring their consumption cures into prominence.

REPORTS ON RECENT PROGRESS IN MEDICINE.

As it is impossible for a medical periodical to take notice of all interesting and important articles published in the medical literature of the world without a system of reviews contributed by different men in the

subjects in which they are themselves working, such a system, which this JOURNAL was one of the first to adopt, has been employed by several of the leading medical papers, in order that nothing new or important should escape their readers.

The *British Medical Journal* has recently added a supplement of eight pages to its regular issue, devoted entirely to short reviews.

The *University Medical Magazine*, of Philadelphia, has up to this time made it a rule to take no abstracts from other journals, but in its editorials to give a short *résumé* of the more important recent advances in medicine. These have been justly appreciated by the readers of this excellent journal, but the *Magazine* feels that it is impossible in this way to offer even a satisfactory summary of recent progress, and has decided to add a new department devoted to several of the most important divisions of medical practice.

Judging from the appreciation of this department which our readers have accorded to us, we have no hesitation in predicting equal success in this venture of our contemporary.

MEDICAL NOTES.

— It is reported that the republic of Guatemala is besieged by small-pox. The disease has made fearful progress recently. In seven weeks there were 1,200 deaths throughout the country, and the number at last accounts was on the increase.

— The Berlin police have ordered that all hotels or apartments taking consumptives to board or lodge, for the purpose of being treated by the Koch cure, shall be disinfected in the same manner as those occupied by diphtheria patients. A new police regulation provides that all patients shall be registered at the nearest police station.

— There is said to be a law in Bulgaria to the effect that, if a patent medicine which is advertised to cure a particular disease fails to do so, the vendor is liable for damages, and may also be sent to prison for a time for publishing a false statement whereby the public may be injured in purse as well as in health. Bulgaria is not usually regarded as being in the van of civilization, but its careful regard for the bodily welfare of its citizens might, with much advantage, be imitated by many more "advanced" nations.

NEW ENGLAND.

The thirty-eighth annual announcement of the medical department of the University of Vermont has just been issued. The preliminary term of the medical college, which began October 30th, will continue until next March. The attendance is unusually good, pointing to a large class. The regular course of lectures for 1891 will begin Thursday, February 26th, and the session will continue twenty weeks. With this course the new requirements for entrance and graduation will go into effect. Applicants will be required to pass an entrance examination in arithmetic, grammar, geogra-

phy, orthography, American history, English composition and elementary physics, before they may be regularly enrolled as students in good standing. But applicants who may have failed in one or more branches at these examinations may be enrolled as conditioned students; they must make up the deficiency, however, during the first year. Such entrance examinations will not be required of those who are not candidates for degrees, or those who have passed certain examinations at other schools, received certain degrees, or received diplomas or certificates from the regents of the State of New York, or from any similarly constituted authority in other States. These requirements are enumerated at length in the announcement. Candidates for the degree of doctor of medicine, before presenting themselves for examination for graduation, must have attended at least three full courses of lectures of twenty weeks duration each, the last at this college. The candidates must have studied medicine three years, must have attained the age of twenty-one years, and must present full certificates of the time of his study, of age, and of moral character.

NEW YORK.

— At a meeting of the American Association for the Cure of Inebriety, held at the Academy of Medicine Building, December 10th, Dr. D. D. T. Crothers, of Hartford, read a paper on "Alcoholic Inebriety and Life Insurance," in which he expressed the opinion that the use of alcohol in any quantity was of necessity conducive in a degree to the shortening of life, and that insurance companies were too lax in the matter of "moderate drinking risks." On the same occasion Dr. J. B. Mattison, of Brooklyn, read a paper on "Opium Addiction as Related to Life Insurance," in which he stated his belief that the insurance companies, which invariably refuse opium risks, might with safety accept an applicant, otherwise in good health, who had abstained from the use of opium for three years.

— Upon the completion of the thirty-fifth day of his abstinence, Succi, the faster, had lost 36.92 lbs., and his temperature was 98 $\frac{1}{2}$, pulse 72, respiration 22, dynamometer register 50 k., and spirometer 1,500 c. c. During the day he took nine ounces of ordinary water, four ounces of Kaisir water, six ounces of Vichy water, and 24 drops of his elixir. On the same day of his fast Dr. Tanner had lost 31 pounds. In other respects his condition was as follows: Temperature 98 $\frac{1}{2}$, respiration 15, dynamometer 53, water drank, 16 ounces. In comparing the two fasters at this period, one of the physicians having Succi under observation remarked: "The test in the case of Signor Succi is not as severe as in the case of Dr. Tanner, because the elixir which the former employs certainly quiets the nervous irritation, and from its reported composition must diminish the destruction of tissue; while the mineral waters he drinks, supply the waste of earthy materials. Dr. Tanner took nothing whatever to deaden his sensibilities, and drank only pure water; but, as the statistics show, he was in much

better condition on this day of the fast than Signor Succi is." By the thirty-seventh day Succi's weight had become reduced to 110½ pounds (from 147½ pounds), and his grasp of the dynamometer to 48 kilos.

— A large plot of ground on Second Avenue between 91st and 92d Streets, belonging to the Rhinelander estate, has been offered free of rent for the use of the New York Society for Parks and Playgrounds for Children for an indefinite period. It is proposed to flood it for a free skating pond, and to provide a suitable structure for sheltering the children if the money needed for the purpose can be raised. In the spring it will be covered with sand and used as a common playground. Gymnastic apparatus will also be provided, as well as free instruction in gymnastics by competent teachers.

— At a meeting of the Section on Theory and Practice of the Academy of Medicine held December 16th, Dr. Charles E. Quimby, of the Medical Department of the University of the City of New York, who went to Berlin last month to make a personal investigation of Koch's inoculation treatment, gave a report of his visit there.

Miscellany.

THE BOSTON CHILDREN'S HOSPITAL.

WITHIN a few weeks the managers of the Boston Children's Hospital have opened a new series of wards in this institution, thus completing the plan originally proposed by them. When the present hospital building was occupied, some ten years ago, the administrative building and the west wing alone were put up; but the increasing demands upon the accommodations and the desire to enlarge the field in which the institution has been so eminently successful, encouraged the officers of the hospital to add still another wing to those already built. The out-patient building, erected two years ago, with its capacious and excellently ordered apartments, its museum of appliances, its operating rooms, lecture room, photograph room and workshop for the manufacture of apparatus, completes a hospital for sick children which has no superior.

The new wing is in the same style as the other parts of the building. It is substantially constructed, finished in ash, with hard-pine deadened floors, hard painted walls, open fireplaces, and the most approved methods of heating and ventilation. The older portions of the hospital will now be devoted to surgical cases, the new wing has been divided into smaller wards and single rooms and will be allotted to medical cases. A large part of the upper story is devoted to a recreation room, and is fully provided with means for amusing the patients while temporarily absent from the wards.

The managers desire that members of the medical profession should recognize the fact that this is a medical as well as surgical hospital. The physicians as well as the surgeons, have been chosen from those who, by positions in the medical school, or otherwise, are our authorities in the diseases of children. The Sis-

ters of St. Margaret, so well known for their devoted work, have the oversight; and abundant nurses keep watch and ward by day and night. If parents could be taught that sick children, as well as injured or deformed ones, need hospital care, and would grow up stronger and better for it, it would be the better for the children and the parents, at any rate, the Children's Hospital now throws open its *medical* wards, as well as its surgical, to any child between the ages of two and twelve, living in Boston and, at a very small price, to any one from elsewhere. Contagious cases alone are refused.

THE SEVENTIETH BIRTHDAY OF PROFESSOR VIRCHOW.

As announced in the JOURNAL of December 4th, there is a movement on foot in Germany to celebrate the seventieth birthday of Professor Virchow. A special committee, of which Professor Waldeyer, of the University of Berlin, is chairman, has issued the following circular:

"On the 13th of October, 1891, Rudolf Virchow will attain his seventieth birthday. There exists a desire and a determination to offer to the renowned scholar and master, on that day, a testimonial, in appreciation of his contributions to science. In the first place it is proposed to strike a golden portrait-medallion, of large size, designed by a noted artist; for nothing but an exceptionally appropriate gift would be worthy of the occasion. A copy, in bronze, of this medallion will be given to each member of Virchow's family, and in case the funds are sufficient, to certain scientific societies. Considerable expense will necessarily be incurred; and the committee look to the wide circle of Virchow's scholars, friends and admirers, in the firm belief that all will gladly unite in contributing to the successful fulfilment of the memorial. Any surplus will be given to Professor Virchow, in order that he may use it in any way that he sees fit, by endowing an institution or some similar object. The committee will from time to time publish the results of their endeavors."

In this country Dr. John S. Billings is endeavoring to bring the matter of this proposed festival to the attention of the admirers of Professor Virchow. Any funds may be sent, with the names of the donors, to Dr. Billings in Washington, to be forwarded with other contributions from the United States, or, if preferred, may be sent direct to the treasurer, Herr Adolf Meyer, Königgrätzerstrasse 48, Berlin, S. W.

THE DIAGNOSIS AND TREATMENT OF CYSTS OF THE PANCREAS.

In a lecture on the subject, Dr. Karczewski¹ said that in the majority of instances cyst of the pancreas had been mistaken for one of another character. In nearly all the cases reported, the tumor was large and filled the abdomen. Out of twenty-one cases recorded the diagnosis of cyst of the pancreas had been made in ten only. In all the cases described, the same train of symptoms was present: colic-like pains, marked emaciation, symptoms of indigestion in consequence of narrowing of the gastric space, and a feeling of pressure. If, on examining such a case, an intumescence was felt, which could be localized in the site of the

¹ Medical Press, November 12, 1890.

pancreas, the possibility of a cystic formation should be borne in mind. Moreover, the position and shape of the tumor was quite characteristic. It was bounded above by the stomach, on the left by the spleen, on the right by the liver, and below by a tympanic zone. It was convex below, and was prolonged backwards. Its movability was slight, but to a certain extent it participated in the respiratory movements.

Early diagnosis was important as it became still more difficult when the tumor filled the whole of the abdominal cavity, and by that time the exhaustion was sometimes so great that operation was no longer of any use.

Treatment consisted solely in radical operation. This had been carried out in three forms. Extirpation of the cyst, opening, by double operation at two periods, and drainage, and simple opening and drainage. Extirpation had been performed five times, in three the operation was fatal, and the two that recovered were operated on under specially favorable conditions. The double operation could only be performed when the tumor was very large, when small it was impossible. Free opening and drainage was the most rational; escape of some of the contents into the abdomen did no harm, under aseptic conditions. The fluid should first of all be withdrawn by puncture by a trocar, and then the wound be stitched to the abdominal opening.

AFRICAN SLEEPING SICKNESS.

A CASE of this remarkable disease, in which interest has recently been renewed by Stanley's book, was recently exhibited at the London Hospital by Dr. Stephen Mackenzie.¹ The patient was a young male negro from the Middle Congo. This is an entirely different disease from the so-called *noma* of the Italians.

Negro lethargy is practically confined to pure-blooded negroes; only in rare instances have persons of mixed blood been affected, and Europeans living in the affected regions have, so far as is known, never been victims of the malady. It is only known to occur over a large part of the West Coast of Africa between the Senegal and the Congo, and when it has been observed beyond these regions it has only been in negroes who have been imported from the West Coast. It is most common between the ages of twelve and eighteen, though no period of life is exempt, and the two sexes appear to suffer about equally. The disease manifests itself insidiously, by a tendency to fall asleep at irregular times, which gradually increases to an irresistible degree. It is progressive in its course, but not uniformly so; intermissions, and apparent recoveries even, succeeded by relapses, sometimes take place, and the duration of the complaint varies from about three months to as many years. In nearly all cases it eventually terminates fatally, the patient sinking into a completely comatose state before death. The nutrition is preserved in the majority of cases until the close, the vegetative functions not being interfered with. But though patients take and digest food when given them, they are incapable of attending to their own wants, and in the late stages the tendency to sleep is so overpowering, that they may drop and break a vessel they are carrying to their lips, or fall off to sleep with the half-masticated food in their mouths. When aroused,

their intellectual powers do not seem impaired, except that mental processes are slow. The village from which the patient shown at the Clinical Society came has suffered severely from the disease, and numerous members of the patient's family on both sides have died of it. So fatal has it been in this village that many of the inhabitants have deserted it.

The etiology of the disease is still in doubt, although many theories have been advanced in regard to it.

OBITUARY.—O. W. DOE, M.D.

THIS death of Dr. Doe removes a familiar figure from the ranks of Boston physicians in active middle life. His career was uneventful, but was marked by an even course of progressive success. He was born in South Newbury, Vt., in September, 1843. He fitted himself for college at the Boston Latin School, and graduated from Harvard with the Class of 1865. He received his medical degree from Harvard in 1869, and entered at once upon medical practice in Boston. In 1875-6, he spent a year in study at Vienna, devoting his attention chiefly to obstetrics, of which he was especially fond. Throughout his professional life he has been identified with the Boston City Hospital; he was house physician in 1868-9, physician to outpatients from 1870 until he was appointed visiting physician in 1875, and for fifteen years he has served in the latter position, up to the time of his death. In connection with his hospital work he was clinical instructor in gynaecology in Harvard Medical School. For several years he did acceptable service in connection with the Boston Dispensary and St. Luke's Home, and the latter institution included him, in recent years, upon its consulting staff. He was a councillor of the Massachusetts Medical Society, and an active member of the Boston Society for Medical Improvement and the Obstetrical Society of Boston. His death occurred on the 10th instant, from double pneumonia following an imprudent exposure to cold while answering professional calls at night.

Dr. Doe carried in his large frame a spirit that was singularly open and guileless. His temperament was sensitive and sympathetic. His life was exceptionally pure, and his reputation was without a flaw. The temptations of early manhood never touched him to do him harm. His ideal was high. He had no time or taste for conventional society, but he loved his friends loyally. He admired music, and found in this his chief recreation. He was of a generous nature; and recalling the help which a kind word or act from his elders had afforded him in the beginning of his career, he took much pleasure in extending similar recognition and aid to young men just starting in life.

In his professional work Dr. Doe was successful and prosperous. He was not a ready writer or an easy speaker, and he therefore was not widely known through contributions to medical transactions. It was at the bedside and in the homes of his patients that his medical skill and judgment found their most congenial exercise, and here he was conspicuously successful. He was untiring in his fidelity, gentle and sympathetic in manner, skilful in treatment. He inspired confidence by his presence and bearing. He was a typical illustration of the good family physician, and his death is mourned in many domestic circles where his loss seems almost irreparable.

¹ British Medical Journal, November 29.

TRIBUTE BY THE OBSTETRICAL SOCIETY OF BOSTON UPON THE DEATH OF DR. O. W. DOE.

RECOGNIZING the great loss which its fellowship has sustained in the death of Dr. O. W. Doe, the Obstetrical Society of Boston places on its records this cordial tribute to his memory :

Taken from us in the prime of his life and in the full maturity of his physical and mental vigor, his death touches us, his associates, with peculiar sadness and regret. We recall his generous disposition; his loyalty to his profession; his manly, unostentatious bearing; his unstained life. He was conscientious and true to his high ideal. He despised all that was low or mean. In his relations with his professional fellows he was courteous and square.

But it was in the daily round of his duty as the medical attendant in a wide and ever-widening circle of homes that his characteristics found their most congenial activity. To be a good family physician was his aim, and that aim was accomplished. In the execution of the peculiarly delicate and responsible obligations which this Society represents, he was gentle, skillful, devoted and successful. The circumstances which attended the beginning of his fatal illness attest the self-abnegation which marked his conduct in the care of others, his patients. A great company of people who have relied upon him in seasons of distress, and have confided in his devoted skill and sympathetic counsel, mourn him as one truly endeared to them. A single word will describe his life and his character, — he was faithful in every relation.

F. W. DRAPER,
JOHN G. BLAKE,
C. ELLERY STEDMAN.

DR. HENRY J. BIGELOW.

RESOLUTIONS OF THE MEDICAL BOARD OF THE MASSACHUSETTS GENERAL HOSPITAL.

AT a meeting of the Medical Board of the Massachusetts General Hospital, December 5, 1890, Drs. Homans, Beach and Cabot, a Committee appointed by the Surgical Staff, submitted the following remarks and resolutions:

Dr. Henry Jacob Bigelow was for forty years one of the visiting surgeons of this hospital. He was a man of wonderful mechanical skill and touch. Inheriting a remarkable intellectual power and coolness from his father, well taught by opportunities for observation and cultivation, of which he made the most, he entered on the practice of surgery perfectly equipped. Hampered in no way, neither by want of means nor by serious ill-health, and endowed with an almost intuitive perception of what was the proper course in every case, he never hesitated. No other result but success in his profession was possible. It was assured by his natural abilities, his unfailing instinct, and his cultivated judgment.

In the mechanical execution of his preconceived and thoroughly thought out plan of operation, he was superior to other operators, and was as certain as he was graceful, brilliant and daring.

Dr. Bigelow's life was coincident with the discovery of anesthesia by ether, of which he was one of the leading advocates. He himself contributed one of the greatest discoveries of all, that of a knowledge of the mechanism of the hip-joint, a knowledge which enables us to reduce a dislocation rapidly, painlessly, mercifully and intelligently. This discovery alone was enough to immortalize him, but in his later years he added another practical benefit to surgery and humanity, namely, his method of relieving those suffering with stone in the bladder. And it will be noticed that all his inventions, achievements and improvements were practical, and, one might say, manual.

How thorough he was in perfecting a mode of procedure before he introduced it! He never published until he was absolutely certain, and could demonstrate his method in an almost off-hand way. And then how concise in his writ-

ings! Not an extra word; every sentence concentrated down to its alkaloid, as one might say. And it must always be remembered that it was in this hospital that the intelligent reduction of the dislocation of the hip by Dr. Bigelow's method was first done, and that it was in this hospital that the crushing and removal of a stone from the bladder at one sitting was first practised, an operation to which Dr. Bigelow gave the name of "litholapaxy."

The code of ethics he submitted to the Massachusetts Medical Society, and which was adopted, is simply to be a gentleman, to treat others as we would be treated; that is the sum and substance of it.

His familiarity with the science of mechanics, with the use of tools, and with the engraver's art supplemented his tactical skill as a surgeon, and rounded out and perfected the clear, concise and brilliant articles he published. His native city and country are proud of him, and suffering humanity will forever be relieved by the inventions of our late associate visiting surgeon as long as the world shall exist.

It was *Resolved*, That the hospital has lost a friend, whose interest in its success as a great charity was ever active and devoted;

That, through his extraordinary skill in operating and teaching, and the rare, judicial character of his investigations in weighing the evidences of disease, standards of work have been established at the hospital that have contributed much to the advancement of the art of surgery and the comfort of the afflicted;

That his accomplishments in the art of treating hip-joint dislocations and stone, now adopted throughout the civilized world, distinguished his name among the leading surgeons of his time;

That the entire surgical staff, who have without exception been his pupils, tender this acknowledgment in grateful remembrance of one whose first instinct was to save.

"Si monumentum queris circumspice."

Resolved, That a copy of the resolutions be transmitted to the family of Dr. Bigelow, and to the *Boston Medical and Surgical Journal*.

Correspondence.

PARAFFO-STEARINE: A SUBSTITUTE FOR STARCH, PLASTER-OF-PARIS, AND SUCH MATERIALS, FOR BANDAGES AND SPLINTS.

FORT WARREN, BOSTON, December 12, 1890.

MR. EDITOR: — Some time ago I used what appears to me to be an inexpensive, useful, cleanly, elegant and efficient desideratum in the treatment of all maladies or injuries where rest, equable support, and solidity of the parts affected, are required. This consists in immersing the common bandage or felt in a combination of equal parts of rock paraffine and stearine, as used for candles, which, if necessary, may be colored to a flesh tint with alkanet root, and liquefied to a little beyond the melting point (160° F.) so as to render the composition of a temperature that may be readily manipulated without injury to the hand, or part on which it is applied. Roller bandages, or felt cut into the shape of the splint required, are to be saturated with the above melted composition, and applied whilst warm and flexible to the limb or joint; when, if needed, further strength and solidity may be given by varnishing a portion of the melted composition over the splint or bandage with a painter's brush, and afterwards smoothing the whole with the palm of the hand until it assumes the surface of ivory, or the well-known appearance of a candle. A fold of linen dipped in cold water is finally to be passed round the bandage or splint, which instantly solidifies the melted paraffo-stearine; the application is then complete, and the wet linen may be continued as an evaporating lotion, if desired. Into this bandage or splint openings may be readily cut by means of the common plaster-of-Paris scissors, the melted composition being afterwards applied over the cut edges of

the opening, so as to form a complete solid case, allowing the escape through such openings of discharges, and the application of dressings. It will be perceived, that, by dividing the paraffo-stearine bandage and removing say half an inch, or separating it into halves, and trimming the edges in the usual manner, splints will be formed having the exact configuration of the part to which they are to be applied, and that these splints can be lined with flannel, etc., and strengthened with the melted paraffo-stearine to any extent required.

The whole of the appliances before described can be readily extemporized by the aid of a pound or two of candles, such as are issued by the Commissary Department; a jug or jar in a saucepan of boiling water, for melting the same; a rolled flannel or other bandage; and a shaving brush; or should a splint and not bandage be preferred, a strip of felt cut into the required shape, and also rolled together, so as to be immersed in the melted candle composition in the jar.

I may observe that all the bandages and splints may, by remelting, be used a second or third time, thus rendering them the most economical of applications; and, it may also be well to mention that when the removal of a bandage is required, it may be at once softened and taken off by brushing it over with any kind of benzine.

This composition, I think, may be found most useful in the field as a temporary dressing. Candles are issued to troops by the Commissary in lieu of oil when in the field, and there would therefore be no difficulty in obtaining the amount required, and it could, as I have before mentioned, be used over and over again. It is by no means so heavy or cumbersome as plaster-of-Paris, and dries instantly on the application of cold water, thereby rendering unnecessary the tedious waiting that always takes place for the plaster bandage to dry. It will, I think, be found most useful and economical for troops in the field, and at first-dressing stations in time of war. Very truly yours,

H. GRAHAM, Hospital Steward, U. S. A.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 6, 1890.

Cities.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diphtheria and Croup.	Diarrhoeal Diseases.	Typhoid Fever.
New York	1,622,237	672	212	13.35	19.50	6.75	1.50	1.20
Chicago	1,100,000	258	102	16.38	17.16	10.14	1.17	1.95
Philadelphia	1,064,277	—	—	—	—	—	—	—
Brooklyn	852,467	—	—	—	—	—	—	—
St. Louis	560,000	141	25	11.36	6.35	5.68	4.26	.72
Baltimore	500,343	159	53	6.30	13.49	3.78	—	.83
Canton	420,007	186	49	11.34	11.88	4.86	1.08	2.16
Cincinnati	325,000	106	62	9.40	10.34	7.52	—	1.88
New Orleans	280,000	—	—	—	—	—	—	—
Pittsburgh	240,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	78	21	10.24	14.08	2.56	1.28	5.12
Nashville	68,513	26	6	19.25	11.55	3.85	15.40	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	42,000	13	0	—	23.07	—	—	—
Worcester	84,536	25	6	12.00	12.00	8.00	4.00	—
Lowell	77,605	32	—	6.26	9.39	—	6.36	—
Fall River	74,361	26	10	15.40	3.85	7.70	3.85	3.85
Cambridge	69,837	19	4	10.52	5.28	10.82	—	—
Lynn	55,684	20	4	—	10.00	—	—	—
Lawrence	44,559	15	4	20.00	—	6.66	—	6.66
Springfield	43,614	19	7	5.26	21.04	—	—	—
New Bedford	40,708	13	3	23.07	7.69	15.38	—	7.69
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,528	—	—	—	—	—	—	—
Salem	30,735	11	2	—	18.18	—	—	—
Chelsea	27,850	11	—	18.18	9.09	—	—	9.09
Haverhill	27,322	4	1	—	—	—	—	—
Brockton	27,278	—	—	—	—	—	—	—
Taunton	25,389	8	1	12.50	—	12.50	—	—
Newton	24,375	7	3	—	14.28	—	—	—
Malden	22,984	6	2	—	—	—	—	—
Fitchburg	22,007	7	4	—	14.28	—	—	—
Gloucester	21,262	4	1	25.00	25.00	25.00	—	—
Waltham	18,522	3	0	—	—	—	—	—
Pittsfield	15,532	—	—	—	—	—	—	—
Quincy	15,711	4	1	25.00	—	—	—	25.00
Northampton	14,361	—	—	—	—	—	—	—
Newburyport	13,514	8	3	12.50	12.50	12.50	—	—
Brookline	12,076	2	0	—	50.00	—	—	—

Deaths reported 1,883: under five years of age 586; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases whooping-cough, erysipelas and fevers) 225, acute lung diseases 278, consumption 259, diphtheria and croup 117, typhoid fever 30, diarrhoeal disease 30, measles 30, scarlet fever 11, whooping-cough 8, cerebro-spinal meningitis 6, malarial fever 2, erysipelas and general septic 1.

From New York 12, Chicago 5, Boston and Lawrence 1 each. From scarlet fever New York 5, Boston 3, Chicago, St. Louis and Baltimore 1 each. From whooping-cough New York 5, Chicago, Baltimore and Springfield 1 each. From cerebro-spinal meningitis New York 2, Chicago, Boston, Washington and Chelsea 1 each. From malarial fever New York 2. From erysipelas 1. From puerperal fever Baltimore 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending November 15th, the death-rate was 21.1. Deaths reported 3,929: acute diseases of the respiratory organs (London) 459, measles 176, whooping-cough 70, fever 67, scarlet fever 64, diphtheria 60, diarrhoea 44.

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The death-rates ranged from 15.2 in Brighton to 33.4 in Manchester, Birkenhead 17.4, Birmingham 18.3, Hull 18.5, Leeds 22.9, Leicester 20.9, Liverpool 21.1, London 20.2, Newcastle-on-Tyne 25.9, Nottingham 25.3, Sheffield 22.2, Sunderland 21.8, Edinburgh 14.2, Glasgow 22.8, Dublin 22.5.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending November 15th, the death-rate was 21.3. Deaths reported 3,962: acute diseases of the respiratory organs (London) 459, measles 176, whooping-cough 70, fever 67, scarlet fever 64, diphtheria 60, diarrhoea 44.

The death-rates ranged from 15.2 in Brighton to 33.4 in Manchester, Birkenhead 17.4, Birmingham 18.3, Hull 18.5, Leeds 22.9, Leicester 20.9, Liverpool 21.1, London 20.2, Newcastle-on-Tyne 21.8, Nottingham 25.3, Sheffield 22.2, Sunderland 21.8. In Edinburgh 14.2, Glasgow 22.8, Dublin 22.5.

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The meteorological record for the week ending Dec. 6, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather.*		Rainfall. Duration Hrs. & Min. Amount in Inches.
		Daily Mean.	Maximum.	Minimum.	8:00 A. M.	8:00 P. M.	Daily Mean.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	
		Daily Mean.	Maximum.	Minimum.	8:00 A. M.	8:00 P. M.	Daily Mean.	8:00 A. M.	8:00 P. M.	8:00 A. M.	8:00 P. M.	
Sunday, 30	29.68	46.0	45.0	35.0	77	83	80.0	S.W.	W.	9	O.	0.00
Monday, 1	29.67	51.0	56.0	11.0	80	48	54.0	N.W.	N.W.	10	O.	0.00
Tuesday, 2	30.17	13.0	22.0	5.0	79	72	75.0	N.W.	N.	12	C.	0.00
Wednesday, 3	30.06	20.0	40.0	-4.0	86	100	93.0	N.W.	N.W.	12	O.	0.06
Thursday, 4	29.81	28.0	33.0	28.0	64	62	63.0	W.	W.	12	O.	0.25
Friday, 5	30.30	32.0	36.0	28.0	65	100	82.0	S.W.	N.	8	R.	0.01
Saturday, 6	30.17	30.0	37.0	23.0	100	95	97.0	S.W.	S.W.	5	N.	0.01
Mean for Week.	29.98	34.0	19.0			77.0						0.93

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 6, 1890, TO DECEMBER 12, 1890.

By direction of the Secretary of War, Captain MARCUS E. TAYLOR, assistant surgeon, is relieved from further duty at Boise Barracks, Idaho, and will proceed, at the expiration of his present sick leave of absence, to Vancouver Barracks, Washington, and report in person to the commanding officer of that post for duty, reporting also, by letter to the commanding general Department of the Columbia. Par. 17, S. O. 287, A. G. O., Washington, December 9, 1890.

By direction of the Secretary of War, Captain CHARLES M. GANDY, assistant surgeon, now on leave of absence, will report in person without delay to Colonel Eugene M. Carr, 6th Cavalry, at Rapid City, South Dakota, for duty with troops in the field, reporting also, by letter to the commanding general Department of Dakota. Par. 14, S. O. 287, A. G. O., Washington, December 9, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 13, 1890.

DELEYAN BLOODGOOD, medical director, ordered to Charles-ton, S. C., to represent the Medical Corps, U. S. N., at meeting of American Public Health Association.

H. E. AMES, passed assistant surgeon, ordered as delegate to Charleston, S. C.

D. N. BERTOLLETTE, surgeon, detached from Naval Hospital, Philadelphia, and ordered to special duty in connection with World's Columbian Exposition.

S. H. DICKSON, passed assistant surgeon, from the "Atlanta," and granted two months leave of absence.

A. R. WENTWORTH, passed assistant surgeon, to U. S. S. "Atlanta."

SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.—A regular meeting of the Society will be held on Monday, December 22, 1890, at the Medical Library, 19 Boylston Place, at 8 o'clock P. M. Papers: Dr. F. H. Hooper, "Transillumination of the Air-Cavities of the Head and of the Larynx, with Demonstrations"; Dr. J. C. White, "Leprosy, with Lantern Illustrations." G. G. SEARS, M.D., Secretary.

OBITUARY. JAMES L. STEWART, M.D.

Dr. J. L. Stewart of Erie, Pa., died on December 6th, aged sixty-five. He was a graduate of the Medical Department of University of Pennsylvania in 1848. In 1850 he moved to Erie City, where he remained until 1855, with the exception of four years' service during the War of the Rebellion with the Union Volunteers, having charge a portion of the time of one of the large hospitals in the vicinity of Washington. He was a bold and successful operator. He had been connected with the Erie County Medical Society since 1849, acting successively as secretary and treasurer, and repeatedly as president; was vice-president of the Pennsylvania State Medical Society in 1867-68, and for six years senior member of the judicial council of the Society; member of the American Medical Association, member

of the executive council of the International Medical Congress, which met in Philadelphia in 1876. He also held the position of examining surgeon for the pension bureau from 1865 to 1876, and for seven years of that time was president of the Board of Examining Surgeons.

BOOKS AND PAMPHLETS.

Household Hygiene. By Mary Taylor Bissell, M.D. New York: N. D. C. Hodges. 1890.

Report of the Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. 1890.

The Treatment of the Morphine-Disease. By J. B. Mattison, M.D., Brooklyn, N. Y. Reprint. 1890.

Rotura Expontanea de la Matriz al Cuarto Mes de Gestacion. Por el Dr. Eduardo F. Pla. Reprint. 1890.

Transactions of the New Hampshire Medical Society at the Ninety-ninth Anniversary. Concord. 1890.

Nervous and Mental Diseases Observed in Colorado. By J. T. Eskridge, M.D., Denver, Col. Reprint. 1890.

Treatment of Scarlet Fever and its Complications. By J. Henry Fruinright, A. M., M.D., New York. Reprint. 1889.

The Early Operation for Hare-Lip, with the Report of a Case, Illustrations, etc. By Thomas H. Manley, M.D., New York.

Report for the year 1889-90, Presented by the Board of Managers of the Observatory of Yale University to the President and Fellows.

Treatment of Hemorrhoids, and other Non-Malignant Rectal Diseases. By W. P. Agnew, M.D., San Francisco: R. R. Patterson. 1890.

Two Cases of Fractured Skull. Recovery in One; Death from Chloroform in the Other. By Thomas H. Manley, M.D., New York. Reprint. 1890.

Urinary Disorders, Connected with the Bladder, Prostate and Urethra. By Reginald Harrison, F.R.C.S. London: Bailliere, Tindall and Cox. 1890.

Rise Fracture from Muscular Action, with Forty Collected Cases. By Joseph P. Tunis, M.D., Resident Physician, Episcopal Hospital. Reprint. 1890.

Rupture of an Ectopic-Sac in the Sixth Month of Pregnancy, Abdominal Section and Recovery. By Drs. James Moran and Thos. H. Manley, New York. 1890.

The Medical Profession as a Public Trust. By John G. Orton, M.D., of Binghamton, N. Y., President of the New York State Medical Association. Reprint. 1890.

The Teaching and History of Mathematics in the United States. By Florian Cajori. Washington: Bureau of Education. Circular of Information, No. 3. 1890.

Sterility in Women including its Causation and Treatment. By Arthur W. Edis, M.D., F.R.C.P., with 33 illustrations. Philadelphia: P. Blakiston, Son & Co. 1890.

Intra-Cranial Lesions. A Discussion of the Question, What are the Present Means of Localizing Intra-Cranial Lesions? By James J. Putnam, M.D., of Boston. Reprint. 1890.

The Regimental Red Cross Corps. A Manual for Medical Officers of the United States Militia. By Wm. Thornton Parker, M.D., etc. Salem Press Publishing and Printing Co. 1890.

The Medical Bulletin Visiting List, Arranged upon an Original and Convenient Monthly and Weekly Plan for the Daily Recording of Professional Visits. Philadelphia: F. A. Davis. 1890.

Address.**EARLY DIAGNOSIS OF SOME SERIOUS DISEASES OF THE NERVOUS SYSTEM; ITS IMPORTANCE AND FEASIBILITY.¹**

BY E. C. SEGUIN, M.D., PROVIDENCE, R. I.

THERE are several serious diseases of the nervous system, and others which, at an early stage present chiefly nervous symptoms, that are held to be incurable, or nearly so.

One reason for this dismal prognosis is that in the present state of medicine the diagnosis of these afflictions is usually only made when organic changes are far advanced, or, in the case of epilepsy, when the functional disturbance has become firmly fixed as a habit of the nervous system. Such cases almost never reach nervous specialists on the first appearance of symptoms; the patients consult their family physician or any general practitioner. When special advice is sought the affection is still further advanced, more deeply rooted, and consequently less amenable to treatment.

We will probably all agree that if we are ever to be able to successfully treat these diseases—to arrest or cure them—it will have to be by improved methods of treatment applied at the earliest possible moment; as near to the beginning of organic changes as possible, or before a functional disease has become fixed. The latter condition I hold to be a *sine qua non*, and improved therapy will avail but little if it can be applied only to well-developed disease.

Consequently, gentlemen, I have long held it to be a duty of specialists to endeavor by every means in their power to furnish to their *confrères* in general practice the elements for the earliest possible diagnosis of the diseases to the study of which they have devoted all their energies. Nine years ago I read two papers on this subject, one relating to organic nervous diseases,² the other to epilepsy,³ and I have reason to believe that they produced some fruit. The essay which I have the honor to read this evening embodies in a briefer form the subjects of those earlier essays, differently arranged, and with some new points and suggestions.

I beg that you will excuse the positiveness of the statements I shall make. All are the result of experience, some of my own mistakes, and every one has been well considered. Besides, the necessity of condensation of so much important matter, renders a terse and rather imperative form unavoidable. In concluding these prefatory remarks, allow me to say that I wish that our masters in other special departments of medicine would give us the results of their experience in a similar way and for the same purpose, that is, to furnish to the general practitioner the means, clearly and logically arranged, of making a correct diagnosis of serious chronic diseases at the earliest possible moment.

Before entering upon the special part of my paper, I wish to make a few remarks upon *diagnosis*, as regards its degree of certainty and its kind or form logically considered. I shall assume that the attempt at diagnosis is preceded by a thorough and exact exami-

nation of the patient as well as by the recording of a complete history of the case.

First, we have an ordinary *positive diagnosis*. Most, if not all the cardinal symptoms of a chronic organic nervous disease are present and properly grouped. The case is one of spinal sclerosis, of acute dementia, of cerebral tumor, or of actual cerebral hemorrhage or local softening, etc. In such a case it rests with the physician's conscience, his knowledge of his own capacity, whether he shall treat the case himself and be able to do all that can be done to arrest the disease or prevent new lesions.

Second, there is a *diagnosis of probability*. Some of the capital symptoms are present, though perhaps not marked; by exclusion you reject the diagnosis of various diseases presenting similar or analogous symptoms. To your mind it is probable (in varying degrees of probability) that one of the lesions above mentioned is present at a tolerably early stage of its development. In such a case is it right to wait, to allow new symptoms to develop before instituting a course of treatment? Have you the technical requirements necessary to determine the condition, static or dynamic, of all the patient's nervous organs? In other words, are you able to search for and recognize *every* symptom of the affection you suspect? Here is where the experience of specialists, freely laid before you, may be of use. In the present state of therapeutics it may be that you can do as much for your patient as a specialist could; but are you on safe ground, are you justified in warning your patient of the probably rebellious course of his ailment, and in obliging him to make the sacrifices necessary to a thorough treatment? In such cases consultations are, I believe, desirable, and equally satisfactory to the patient and to the practitioner. In many such cases the accumulated experience of the specialist will readily clear up what uncertainty may exist. Occult symptoms may be discovered, confirming the diagnosis; or seemingly positive symptoms may be shown to have no serious meaning. I could quote many cases confirmatory of the utility of a consultation under such conditions.

Third, there is, not rarely, a degree of diagnosis which I term a *diagnosis of possibility*. The anomalous course and grouping of symptoms, each one not serious in itself; the absence of elements for the diagnosis of other diseases; the inutility of prescriptions based on less serious lines of thought; all these lead you at once or gradually to suspect that you are face to face with the initial stage of one of the diseases which I shall consider analytically further on. In such a case it is, I believe, an imperative duty to hold a consultation. The specialist may be able to dispel your fears, or to advance the diagnosis to the second degrees, yes, in some instances, to the first.

It is for the perfection of diagnosis at and from this stage that I now plead, for the reason already given, that, if we are ever to be successful in curing sclerosis, inflammation of the neuroglia, decay of nervous elements, primary or secondary to arterial changes, neoplasm, etc., it will have to be by energetic treatment, including hygiene, applied at this stage. I need not tell you how dismal and discouraging is the prognosis of the above lesions at the present time; usually, making a correct diagnosis (of the second or first degree), is equivalent to pronouncing the victim's death-warrant.

Besides these three *degrees* of diagnosis, we should

¹ Delivered before the Providence Medical Association, December 1, 1880.

² New York Medical Record, February 26, 1881.

³ New York Medical Record, August 6 and 13, 1881. Both in *Opera Minora*, pp. 457 and 540.

bear in mind that the complete study of a given case of nervous disease requires several *kinds* of diagnosis, to be reached by different modes of reasoning. In organic diseases we should clearly establish in our own minds three separate diagnoses :

(1) The diagnosis of the *symptom or symptom-group*. This is arrived at by the history of the case and by a careful examination for the determination of the alterations presented by the patient's functions and external (or accessible) tissues. Physiology is our chief guide here.

(2) The diagnosis of the location or seat of the lesion. This is arrived at by a purely anatomical and physiological reasoning. We trace the symptom (that is, disordered function), to its source or anatomical substratum. I need hardly remind you of the remarkable advances made in this form of diagnosis (so-called localization diagnosis) in the last twenty years. Many small lesions can now be located in the brain and spinal cord with almost geometric exactness.

(3) The diagnosis of the *nature of the lesion*. This is often difficult, and is made by applying deductions, the accumulated results of experience as embodied by pathological anatomy and statistics. In nervous disease we cannot hope for a direct demonstration of the nature of the lesion, as we have it in pulmonary phthisis by the presence of bacilli, or in Bright's disease by the discovery of albumen and casts. In nervous diseases the third diagnosis is one purely of inferential or deductive reasoning.

In functional nervous affections, we are limited to two diagnoses :

(1) The diagnosis of the *symptom or symptom-group* made in the same manner as for organic diseases.

(2) The diagnosis of the patient's *general condition and predispositions (heredity)*.

The latter is often made impossible by the silence or deliberate deception of the patient and her relatives. The former is to be obtained by a thorough personal examination : including a study of the state of the blood, of the urine, of the condition of the heart and the arterial tension, the state of digestion and assimilation, and by an examination of those organs which we know are capable of being the starting point of exhausting irritations ; for example, the eyes, ears, and sexual organs more especially.

There is, we now believe, no true lesion (that is, gross organic change), in the nervous organs in these cases, yet there must be some delicate alterations underlying the perturbation of functions. In a good many cases of epilepsy, however, a very thorough search may reveal a lesion. What I have just said of forms of diagnosis, as to kind and degree, implies the giving of much time and patient care to the investigation of each case. But I am convinced that you will never have occasion to regret having studied your nervous cases in this way.

Here allow me to say that long before I became a specialist (having been a general practitioner fourteen years before becoming one) I had a very definite contemptuous idea of consultations as ordinarily managed. Some years ago, in all departments of medicine, the advice of a specialist or consulting physician was sought rather to confirm the serious or wholly unfavorable diagnosis of the family physician, and to enable the family to "feel that everything had been done." Consultations *pro forma* were the rule then and they are not unknown now. Is this course in accord with the

highest conception of a physician's duty, in that he is bound to do everything in his power for his patients' welfare ? - If the diagnosis has been correct, and the inevitable fatal issue is approaching, where is the utility of the consultation, and how are we justified in entailing the additional expense upon our clients ? If our diagnosis has been wrong from the start, is it not usually too late for the consultation to result in any good for the patient ? I leave out, of course, those mortifying cases, of which we all have had our share, when we had believed, and so informed the patient or his relatives, that he had a serious or fatal disease when such was not the case. Here, of course, the consultation serves to dispel the dense cloud resting on a family, and the new diagnosis and plan of treatment are followed by relief or cure : but what are the feelings of the unfortunate physician who had allowed himself to be so positive ? In this connection I need hardly remind you of such instances as hysterical irritation of organic disease, emotional paralysis, cardiac murmurs, etc.

At the present time, consultations are being more and more held for what I take to be their legitimate logical purpose, namely, to enable the practitioner to recognize serious disease of unusual occurrence at the earliest possible moment, and to determine the proper line of treatment.

I shall speak only of a few nervous diseases, but I would like to impress you with my own belief that the above remarks apply with equal force to serious diseases of other apparatuses ; to medical and surgical conditions. How can we count the victims of the late diagnosis of Phthisis, of Bright's Disease, of Perityphilitis, Intestinal Obstruction, Pernicious Malarial Fevers, Glaucoma, Cirrhosis of the Liver, Ulcer of the Stomach, etc., whose lives might have been saved or prolonged, by an early positive diagnosis, or by a strong diagnosis of possibility ?

Excuse me if I again state that one of the chief ways in which we may hope to improve our therapy and prognosis will be by the recognition, from the presence of a few carefully ascertained and reliable symptoms, at the earliest possible moment.

However, I do not wish to be understood as claiming that such an early diagnosis can be arrived at only through consultations. The purpose of this, and of my former papers, is to enable the general practitioner to make early diagnoses by becoming possessed of the knowledge and resources of the specialist. Of course, he cannot communicate his maturity of judgment nor all his knowledge of exceptional cases and conditions which sometimes modify an apparently clear case, or throw light on an obscure one, but he can and should diffuse a knowledge of the elements and logic of diagnosis, with far more detail than can be put in textbooks or treatises.

L. POSTERIOR SPINAL SCLEROSIS (TABES).

In spite of the enormous mass of literature relative to this disease which has been distributed to our profession in the last twenty years, this disease is yet, I regret to be obliged to say, often — very often — unrecognized in its first stage, the neuralgic or pre-atactic stage. Patient after patient comes to the specialist with the same story, namely, that he has been told he had rheumatism or neuralgia, and has been treated accordingly.

Leaving out non-typical cases of tabes, which are

highly-interesting and often really difficult of diagnosis, there ought not to be any uncertainty attending the very early recognition of sclerotic changes in the posterior root-zones of the spinal cord. The two difficulties in the way of a correct positive diagnosis are (1) the lax and unscientific determination of the symptoms by the physician, and (2) his feeble faith in the fatal significance of the few symptoms presented by the patient. To many a practitioner it seems the height of presumption for another to say that a man who complains of occasional sharp pains in the legs, whose patellar reflex is low or lost, and who has had temporary diplopia, is doomed to be ataxic and then bedridden in the course of a few years. Yet, gentlemen, it is true, ninety-nine times out of a hundred — as true as that a given comet shall return to our limit of vision at a given time.

Allow me treat of the first source of error in some detail, as it is fundamental. It is a result partly of the faulty clinical teachings in our medical schools, where the science of semiology is not tested as it deserves: for on it hangs all diagnosis; and partly to hurry and loose habits of questioning of physicians. The patient's statement that he has "neuralgic" or "rheumatic" pains in his legs is allowed to stand as a finality. No cross-questioning is applied to elicit a recollection of past diplopia; no objective examination is made; and two previous symptoms (loss of knee-jerk and of pupillary reflex) are not discovered. The patient goes away with a prescription directed to the relief of rheumatism or neuralgia.

I am one of those who believe that if physicians exercised proper care in the questioning and cross-questioning of patients, and made it a rule always to make a physical or objective examination of every patient, posterior spinal sclerosis would be detected by all practitioners at a very early stage of its development, at that period when possibly we may, by improved therapeutics, some day cure this dread disease.

What are the cardinal symptoms which may serve to justify a positive diagnosis of this disease in the first stage (barring non-typical cases)?

First, and chiefly, the peculiar pains which almost always precede all other symptoms, and may be almost the only symptom for many years.⁴ But to fully appreciate the significance of these pains, and to be confident enough to base a diagnosis on them, it is necessary to study the symptoms carefully and minutely. The adult patient⁵ who complains of sharp pains in his legs should be at once suspected of having tabes; and most closely questioned; first, by being asked to fully describe the pains in his own way; then, if necessary, to ask a few direct questions tending to bring out sharply the peculiarities of these pains.

The pains of tabes are pathognomonic, if the observer obtains a clear concept of their characteristics, which are:⁶

(a) Irregularity of distribution. The pains appear about always, first in the lower limbs; then in both; they strike in the heel, calf, thigh, toes, instep, anywhere and everywhere. So true is this that, after a few months, many patients will be unable to say where they have not had pains below the groins. In some

⁴ I have made an autopsy in a case, which for twenty-nine years presented only two symptoms, namely, fulgurating pains and fixed dilatation of one pupil.

⁵ I have never remembered that posterior spinal sclerosis never occurs under twenty years of age, and very rarely under thirty.

⁶ I arrange these characteristics in no logical order; all are nearly of equal importance.

cases the pains for the first few months affect perhaps half a dozen localities, but always in both legs. A secondary characteristic of this group is that pains never occur simultaneously in the two legs, though the succession may be very rapid. In double sciatica the pain is constantly present along the two sciatic nerves.

(b) Location of the pains. Usually cutaneous, appearing in rounded or ovoid spots or areas; occasionally in streaks of short length; sometimes radiating in a star-shaped way from a given point. Never do the pains extend along a nerve trunk and its branches as in true neuralgia. Occasionally the pains are deeper, in muscles, bones or joints, with somewhat different characters from cutaneous pains.

(c) Nature of the pains. This is perhaps their most important characteristic. The pains are almost always sharp, lancinating or piercing, rarely (in joints and muscles) tearing or crushing. A most valuable criterion is that these sharp pains are repeated in one spot or area every few seconds for hours or days (occasionally for weeks). The patient, if properly interrogated, without leading questions, will say that the sharp pains strike the place for so long a time, minutes or hours. This is a peculiarity presented by no other pain that I know.

(d) Hyperesthesia of the spots or areas which are the seat of pain. The affected places present these peculiarities; a slight contact with the finger, clothing, or even a sheet in bed causes suffering, whereas (usually) a firm pressure does not prove painful, or may relieve.

Let me here point to a contrast between fulgurating and truly neuralgic pains. In the former the tenderness is met with exclusively at the seat of pain; in the latter there are tender points where the nerve-trunk becomes superficial or escapes from an aponeurosis or foramen (*points douloureux* of Valleix). The tenderness of neuralgia is confined to the nerve-trunk or large branches, whereas that of tabetic pains is limited to the skin where the darting pains recur.

(e) The degree of pain is of no special value for diagnosis, though I may remark that the suffering in tabes is very much greater than in sciatica.

With these characteristics well-established in a given patient, I believe that we have in hand irrefragable evidence of beginning posterior spinal sclerosis. Yet there are imitations of the pains, to which I think I was the first to call attention. First, some gouty persons have sudden sharp pains here and there, which they compare to the stab of a needle, in legs, arms, trunk, or even scalp. This extreme extension alone serves for differential diagnosis; but more important is the fact that the pains occur only once or twice in one spot, and the spot is never hyperesthetic. Second, in dementia paralytica we occasionally hear complaints of sharp, pricking pains in various parts of the body, much like those of gout, that is, simple and not severe or large. In appreciating the value of such pains in dementia paralytica, it must not be forgotten that in a small proportion of cases the posterior columns are more or less diseased. Third, I should add that I have twice received excellent descriptions of fulgurating pains, "terrible" in degree, from victims of the morphine habit. These men said that the pains occurred everywhere, which is almost unknown in early tabes; and their knee-jerks were too strong. I suspected that these patients, having read about or been

told of fulgurating pains, had described their vague pains accordingly, to justify the continued use of morphia.

Barring these three imitations, I repeat that the pains I have endeavored to describe, are, when exactly determined, of pathognomonic value. But other symptoms are seldom wanting, even in their early stage.

Second., diminution or loss of the patellar tendon reflex. You all know about this important negative symptom, and how to obtain it. Perhaps all of you may not be aware that where the jerk is absent to ordinary tests, it may still be demonstrated to a feeble degree by diverting the patient's⁷ attention by making him count or read aloud, or better, by making him grasp an object strongly while you tap the tendon. If the knee-jerk is absent, you obtain quite a corroborative sign. But let me warn you that this negative symptom is not in itself (and the same may be said of ataxia which appears in the second stage of tabes) of absolute value. This is because the knee-jerk is absent in a variety of affections and conditions, such as old age, diabetes, multiple neuritis, diphtheritic paralysis, lead paralysis, poliomyelitis, etc. It is only a corroborative symptom.

Third. Pupillary immobility or spasm. This is, perhaps, next to the fulgurating pains, the most valuable symptom of beginning tabes; yet, after all, it also ranks only as a corroborative sign. Perhaps it may not be out of the way for me to describe the symptom, which, by the way, must be sought for, as it escapes the patient's observation. The pupils, variable in size, usually contracted, often unequal, present this peculiarity, namely, that, while they contract under the effort at accommodation (looking at your finger at less than eight inches), they neither dilate nor contract under the influence of the strongest contrasting light and shade (tested in a dark room with a mirror, or at a brightly lighted window). This condition of the pupil is often designated as Argyll-Robertson pupil, from the Scotch physician who first described it. I regret to say that its value falls below that of fulgurating pains, as it is also present in some cases of cerebral syphilis and dementia paralytica (and after fifty years of age the "pupillary reflex" is sluggish or almost lost).

Fourth. Transitory or permanent diplopia, either from paresis of an internus or of an externus rectus muscle. This may be present under your observation; but usually it has to be elicited by questioning, having occurred years or months previously. A ready means of determining which rectus muscle was paralyzed, is by asking the patient whether his diplopia was for objects within two feet of him or for them farther away. An adult who has or has had acute strabismus or diplopia should at once be suspected of posterior spinal sclerosis or of intra-cranial syphilis, and a careful inquiry made along these two lines. Of course, there are so-called rheumatic paralyses of ocular muscles, and this diagnosis is arrived at by exclusion.

As I am not speaking of refined or "fancy" diagnosis I need go no farther into the semiology of the first stage of tabes. There are cases in which atrophy of the optic nerves, with fulgurating pains; of mono-arthritides, with fulgurating pains; of vesical paralysis with fulgurating pains; of gastric crises, with fulgurating pains (always in the vast majority of cases, I beg you to remember, with fulgurating pains) characterize

⁷ In my experience, after considering all variations in the mode of onset of tabes, and studying all my cases of "abnormal tabes," I hold to the opinion that these pains fall least often of any single symptom.

the onset of the disease. Then there are non-typical or abnormal cases of tabes in which paresis or ataxia or vesical paralysis or gastric and other crises may precede pains; but these are phenomenal cases, each one worthy of record.

(1) In my opinion the determination of the existence of fulgurating pains with one or more of the four symptoms I have referred to in detail, occurring in a subject over twenty years of age, not only justifies but renders imperative the diagnosis of posterior spinal sclerosis. Any other diagnosis should be held as betraying ignorance or want of scientific courage. Excuse the force of this remark, but my memory is so filled with recollections of neglected and maltreated patients that I must cry out loudly in behalf of an early diagnosis of tabes.

(2) The existence of fulgurating pains alone, in a subject over twenty years of age, warrants a diagnosis of probability, and justifies the ordering of a special treatment.

(3) The occurrence of transitory or permanent diplopia (strabismus), especially if the subject be over thirty years of age, should at once arouse a suspicion of the beginning of tabes, and other symptoms should always be sought for diligently.

(4) The existence of Argyll-Robertson pupils alone should lead the physician to anticipate posterior spinal sclerosis or dementia paralytica.

(5) The absence of knee-jerk is not in itself of specific value; but it is abnormal, and should cause a careful full search to be made for other symptoms.

(To be continued.)

Original Articles.

IS THE UNITY OF PHthisis AN ESTABLISHED FACT?¹

AN IMPORTANT CONSIDERATION IN REGARD TO THE CURE OF THE DISEASE BY INOCULATION.

BY HENRICH GIBBS, M.D.,
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We are now anxiously waiting the development of Dr. Koch's cure for consumption and the announcement of the composition of the lymph he employs for that purpose. While in this state of doubt it seems to me that we may profitably examine into the pathology of the disease which Dr. Koch proposes to cure, and see if, with our existing knowledge of the clinical features and morbid processes, we may reasonably expect any lymph to cure all or any of our patients. Until the discovery of the tubercle bacillus, a large number of skilled physicians held the view that phthisis pulmonalis and tuberculosis were distinct diseases, but the bacillus from its intimate association with lung diseases is now generally considered to be the virus of the disease, and as a necessary consequence the terms phthisis and tuberculosis have become interchangeable. The latest works on Pathology adopt these views, and head the chapter with, "Phthisis or Tuberculosis." The latest work to which I have access is "Fowler's Dictionary of Medicine," published this year; and under the head of "Phthisis" is given the following definition: "Phthisis, a tubercular disease of the lungs characterized by the occurrence of lesions, partly

¹ Read before the Medical and Library Association of Detroit, Michigan, December 8, 1890.

specific and in part inflammatory, which tend either to caseate or soften or to become fibrous. . . . This definition emphasizes the view, now held by most pathologists, that pulmonary phthisis is a single disease, and that it is invariably attended by the appearance in the lungs of the pathological product known as tubercle."

This statement puts in plain language the views held by the majority of pathologists at the present time, and is based on the fact, as they state it, that tubercles and inflammatory foci occur in the same lung at the same time. The only recent statement differing from this by any one believing in the bacillary origin of phthisis, is one found in the December number of the *American Journal of the Medical Sciences* over the initials "H. C. E." It occurs in a review of Dr. Arthur Ransome's Milroy Lectures on "The Cause and prevention of Phthisis," and is as follows: "It is unfortunate, however, for the sake of exactness in diction, that the author has made the common mistake of using the words phthisis and tuberculosis as interchangeable; a fault the more to be regretted for the reason that it is upon such errors as this that all the opposition there is to the specific nature of the bacillus of tuberculosis is mainly based. Of course it is known that there may be phthisis which is not due to the activity of the bacillus of tuberculosis, but so little stress is laid upon this fact by clinical writers, that the subject is still in some confusion from that cause."

Da Costa ("Medical Diagnosis," Seventh Edition, 1890) says: "and although we recognize a non-tubercular form, I shall, unless otherwise specified, use the term phthisis as implying tubercular disease."

Jaccoud in his work on "The Curability of Phthisis," says: "Phthisis, in fact, is invariably tubercular, and the anatomical unity of this disease is established by histological analysis."

He also says: "The conclusion acknowledged today in favor of the unity of tubercle regards merely its anatomical structure . . . while its clinical duality is not called into question."

These conclusions as to the histological unity of phthisis and tuberculosis were drawn from theses published by Charcot in 1860 and Grancher in 1872.

Dr. McCall Anderson published a paper on the curability of acute phthisis in the *British Medical Journal* of November 8th this year, in which he mentions seven cases of galloping consumption, five of which were cured. He says there are two forms of acute phthisis: (1) Acute tuberculosis; (2) acute pneumonic phthisis. In the first there is an infiltration of the lungs with tubercles. In the second a more or less extensive consolidation, and he states further that the two fatal cases were tubercular.

It will be seen from what I have said that there is a considerable variation in the opinions of the latest writers on this subject.

It seems to me we ought to have some definite ideas as to the morbid processes in these diseases; and in view of the possibility of curing them, this is imperative, for if there are two distinct lesions which do not occur together in the same lung, we can hardly expect one remedy will be effectual in both cases.

The first thing to be considered is, What is a tubercle?

Referring to Payne's "Manual of General Pathology" we find it stated that acute miliary tubercle is now considered the essential type of the disease. On

section a tubercle is found to be composed of lymphoid cells, of epithelial cells and of large cells containing many nuclei, called giant cells; and there is sometimes a fine reticular stroma; in the centre is a caseous mass. This is the latest definition of a tubercle of the reticular kind that I am aware of. Turning, however, to Da Costa's "Medical Diagnosis," this year's edition, we find this statement: "Tubercle is an unorganized substance, the deposits of which are at first isolated, then accumulated."

How are we to reconcile these two absolutely different appearances with the unity of phthisis, and with its cause, the tubercle bacillus? Turning again to Payne's "Pathology," we find that there are two forms of phthisis, the catarrhal and the infective; and we are told that this latter agrees with acute miliary tuberculosis, which we have already been informed is the essential type of the disease. Then comes this statement: "We have thus two chief forms of tuberculosis of the lungs: (1) ordinary phthisis, (2) infective tuberculosis. These forms may be combined, the latter being developed out of the former, and even vice versa." Now I would ask you to say whether it is within the limits of possibility that the reticular tubercle (Payne's infective form) could be developed out of the mass of broken-down material constituting the caseous tubercle; and yet this is what Dr. Payne says takes place, and he sees nothing extraordinary in such a metamorphosis. He also says the two forms are combined in the same lungs. This statement is necessary to prove the unity of phthisis; and the unity of phthisis is necessary if the bacillus tuberculosis is the virus of the disease.

I will now give some of the results of my own investigations during the last nine years. The two forms of tubercle are perfectly correct, and they are best seen in acute miliary tuberculosis, as the progress of the disease is rapid, and, especially in children, death takes place before there is any breaking down of the tubercles. But these two forms never occur in the same lung. They are absolutely and entirely separate, and their commencement and progress is totally unlike. In the caseous form the process is an inflammatory one from the beginning, and does not differ in the least from any other acute inflammatory condition starting from a small focus; while the reticular is reticular from the beginning, and does not show any signs of a necrosed centre until the process is well-advanced. Although I have used specimens from cases of acute miliary tuberculosis to illustrate my argument, the processes are exactly the same in those cases of pulmonary phthisis and tuberculosis where the disease exists for a much longer time. The lesions are then much larger. I have had, during the last eight years, a large number of students in my practical classes, and I have always given them sections showing these two forms. During this time I have examined many hundreds of sections myself, and never in any case has there been the slightest doubt as to the lesion belonging to one or the other form; there has never been one doubtful specimen.

Now, if Dr. Payne's statement is correct, mine must be wrong. Will not some one take the matter up and see who is right? From my experience in the morbid histology of these diseases I am convinced that the duality of phthisis is an established fact, and our best clinicians are well-satisfied that it is also established clinically. Admitting this to be the case,

we have to consider, first, whether the bacillus tuberculosis can be the virus of two distinct diseases; and, secondly, whether the same cure is likely to be applicable to both cases.

In the first place, one form of lesion is distinctly inflammatory in character, and it is with this lesion that the bacillus is always associated. Take the caseous form of acute miliary tuberculosis: every one of the tubercles contains a large number of bacilli in its centre. In the more chronic forms with this lesion, that is in pulmonary phthisis, we always find numbers of bacilli in the sputum and in the lungs. But in the tubercular form many cases occur where no bacilli can be detected, either in the sputum or lungs; and when the bacilli are found, they do not occur in the necrosed centre of the reticular tubercle, but scattered about in the reticular tissue, and then singly in small numbers. We find that on inoculating animals with tubercular matter, or cultivation of the tubercle bacillus, we produce in a susceptible animal a somewhat similar disease. This fact has established the bacillus in its present position; and it has been stated that the induced disease is identical with that occurring in the human lungs. This is not the case. The induced lesion in an animal is different from that in a human lung, in that there is never reproduced the typical reticular tubercle with giant cells.

But I have found that there is a marked difference in the lesion produced in an animal, if the inoculated material be taken from a case of tuberculosis, from that produced by the inoculation of material from a case of caseous phthisis. In an animal (monkey), inoculated from a case of caseous phthisis, the induced disease is similar to that which is found in pulmonary phthisis. There is no organization, merely inflammatory breaking down. In another (also a monkey) killed eleven days after inoculation with material from a case of tuberculosis, the change is just commencing in a malpighian corpuscle in the spleen, the only organ affected; and this change is of a totally different character, consisting in the formation of large cells, which resemble those found in scrofula. Then, again, the relation of the tubercle bacillus to these forms is important: it is not found until the lesions begin to caseate. We have, therefore, two distinct diseases which reproduce themselves in susceptible animals in a distinctive manner. One of these diseases is of an inflammatory character, and with it are always associated tubercle bacilli, generally in large numbers. The other is a disease producing a new growth of a fibroid character, prone to break down; and the bacilli, when found, are few in number, and their position is different; some cases also occur without any bacilli.

Before proceeding to discuss the cure of consumption, it will be as well to tabulate the different lesions found in this disease as it is surely necessary that we should know the morbid condition of the organ we are trying to cure.

Under the head of the generic term "Consumption," I would include the following: Acute miliary tuberculosis, pulmonary phthisis, pulmonary tuberculosis.

Acute miliary tuberculosis, as I have shown, must be divided into two forms, according to the lesions found in the lungs, inflammatory and tubercular. In the first form the lungs are full of minute nodules caused by inflammatory action, and in each nodule are found a number of tubercle bacilli in the centre. Hamilton, in his work on "The Pathology of Bron-

chitis," gives a very good description of this form, which he calls, "disseminated catarrhal pneumonia"; and he says that recovery is by no means uncommon. The tubercular form consists in the infiltration of the lungs with minute nodules which are indistinguishable from the first form by the naked eye, but which, on examination with the microscope, are found to be reticular tubercles.

Pulmonary phthisis, in its typical form, is found when the consolidation produced by the inflammatory action of catarrhal pneumonia has not cleared up, but has lost its vitality and undergone caseation. There is no attempt at organization, no structure anywhere, merely a mass of broken-down tissue.

Pulmonary tuberculosis is characterized by the formation of new growths throughout the lungs, which consist of fibroid tissue and giant cells, and, in their later stages, possess a necrosed centre. In acute miliary tuberculosis, the nodules are small, as the patient dies before they have time to grow. In the more chronic form large aggregations of tubercle are found, which have this peculiarity; they are very prone to necrose in the centre, and break down.

At first sight this description would seem to necessitate the divisions of the morbid lesions into three classes: the inflammatory form of acute miliary tuberculosis; pulmonary phthisis; tuberculosis, acute and chronic. But if we consider that the inflammatory form of acute miliary tuberculosis is sometimes found associated in children with measles, and that a common sequela of measles is capillary bronchitis, I think we have an explanation which will meet the difficulty.

Children do not, as a rule, expectorate, and consequently their bronchial tubes must contain more or less of the inflammatory product of capillary bronchitis. We know, that, if this inflammatory condition extends from the bronchioles into the alveoli of the lungs, a condition of catarrhal pneumonia is produced. It is not, therefore, straining a point to imagine, that, if the products of the inflammatory action in capillary bronchitis are sucked into the lungs during a fit of coughing, they would be distributed into a number of alveoli and produce inflammatory action wherever deposited, the result being the inflammatory form of acute miliary tuberculosis or Hamilton's disseminated catarrhal pneumonia.

In this way we reduce the lesions of consumption into two forms, the inflammatory and tubercular. And this classification is fully borne out by the morbid histology in every case; and the two forms are absolutely and entirely distinct, and do not occur in the same lungs.

I presume no one will doubt that Dr. Koch has entire belief in the unity of phthisis and its bacillary origin. It is, therefore, with some surprise that we read the statement that his lymph does not kill the tubercle bacilli but the tuberculous tissue, that it can influence living tuberculous tissue only, and has no effect on dead tissue, as, for instance, necrotic cheesy masses. This at once removes from its action all cases of pulmonary phthisis, and leaves only tuberculosis to be acted upon.

As I have already pointed out, we have in tubercular tissue a new formation of low vitality, which is shown by its proneness to break down. We have a somewhat similar tissue in the lesions of syphilis; and we know that under the influence of certain drugs, these lesions will soften and caseate. But the tissue

found in syphilis is of a much softer, less organized, and more unstable character than that found in tuberculosis. Koch's remedy is said always to cause a feverish reaction accompanied with rigors, when inoculated in a patient, the subject of tuberculosis; and this symptom is absent when the case is one of syphilis, cancer or any other disease. The most marked success, so far, seems to have been obtained in cases of lupus; and here the parts affected showed a reaction to the remedy by becoming red and swollen. Whatever may be the future of Koch's cure, one thing seems to be certain, and that is it will not help cases of pulmonary phthisis. This will necessitate our making a careful diagnosis in every case, as fortunately we are able to cure pulmonary phthisis in the early stage by ordinary remedies, and, as Dr. McCall Anderson has shown, even cases of galloping consumption, provided they are not tubercular.

One of Koch's statements is difficult to understand; it is, that his lymph destroys the tubercular tissue in which the tubercle bacilli are situated. Now, given a lung studded with tubercles, all of which are suddenly killed by the action of the curative lymph, it does not seem clear what is to become of the necrotic material. We know that a syphilitic gumma, after it has been destroyed by the action of a drug, will still remain as a foreign body in the part, and set up chronic inflammatory action; in this manner forming a fibrous capsule and isolating itself from the surrounding healthy tissue. The same thing may be done by a tubercle or a nematode worm. The centre is a mass of caseous material having no structure to show what it originally consisted of; it becomes, however, completely isolated by a fibrous capsule formed by the chronic irritation of its presence. The central portion may undergo calcification.

If Koch's lymph kills the tubercles in a diseased lung, what change will take place in them? If they are to be softened and absorbed, the place they occupied will be left vacant and the lungs full of holes, as they were formed at the expense of lung tissue. If, on the other hand, they are simply killed, and dry up like a dead gumma, the lung will in time be filled with numbers of small fibro-cystic masses. We need more light upon this subject; but before all things, it seems to me, we ought to have a clear idea of the actual lesion in the lungs to enable us to appreciate the action of the cure.

It may be of interest to the Society to hear a short account of the work that Dr. Shurly and I have been doing during the last two years on this subject. We came to the conclusion that the lesions in the lungs must be formed by some morbid product circulating in them; and it seemed to us that the only way, if our views were correct, in which this disease could be checked was by the introduction of some substance which would enter into chemical combination with the morbid product and render it inert. We have never made any attempt to destroy the tubercle bacilli.

It is now more than two years since our first experiments were made, and they have been continued ever since. After trying a number of different substances we found that with iodoform we could entirely check the tubercular process in an inoculated animal. We inoculated monkeys and guinea pigs with tubercular material; and we found that those treated with iodoform developed nothing further than an abscess at the seat of inoculation, with numerous tubercle bacilli

in the contained pus, while the control animal, in each series, left untreated, invariably died of the disease. But we found that the use of iodoform brought on fatty changes in the liver, of a peculiar character, consisting of an infiltration in patches and not like that found in ordinary fatty liver. These patches were not confined to one or more lobules; but at the edge of the patch, in many cases, only a part of a lobule was changed.

While Dr. Shurly was treating the inoculated animals with various drugs, I made a series of experiments on pure cultures of the tubercle bacilli; and I found a number of drugs which would render them inert, as far as their power of producing artificial tuberculosis was concerned. Among these, chloride of gold and sodium exerted a marked influence when used in very small quantities; and Dr. Shurly will tell you what a striking effect it has when used on cases of consumption. As soon as we found that we could prevent the development of the disease in inoculated animals, Dr. Shurly directed all his attention to finding a substance which could be used on human patients without deleterious effects; and I investigated the results of the various inoculations with a view to proving that tuberculosis and pulmonary phthisis reproduced themselves in a different manner in susceptible animals. In both these lines I think we have been successful, although it will require further investigation before we can consider the matter definitely proved.

I should like to call attention to the effect of Dr. Shurly's treatment of patients on their sputum. He has kept me regularly supplied with sputum from all cases under treatment; and I have found that those cases treated with substances that produced a marked amelioration of the disease had little or no effect when inoculated in animals. I have a number of guinea-pigs inoculated with sputum from undoubted cases of consumption; and these guinea-pigs are now none the worse for the operation, which was done some months ago.

That a marked change has taken place in these consumptive cases is shown by the total disappearance of bacilli in most of them.

I feel convinced if the members of this Society will take up this subject, and work it out on the lines we have indicated, some most important results will be obtained. But I also feel convinced that the duality of phthisis must be recognized to render the work of lasting good.

TWO CASES OF RELAPSING APPENDICITIS; OPERATION BETWEEN ATTACKS; REMOVAL OF APPENDIX; RECOVERY.¹

BY CHARLES B. PORTER, M.D.,
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The literature of the last few years upon the medical and surgical treatment of appendicitis is probably more voluminous than upon any other subject. The greater interest in, and better understanding of, the pathological conditions present, are due largely to the able monograph by Dr. R. H. Fitz in the *Journal of Medical Sciences*, October, 1886. Dr. Fitz has shown that successive attacks occur in eleven per cent. of the cases. In the cases which I have been able to collect there seems to have been a tendency to increasing severity in

¹ Read before the Boston Society for Medical Improvement, November 24, 1890.

each successive attack, and in some to a state of chronic invalidism between attacks. In all who were intelligent enough to appreciate their situation there was a great dread of renewal of symptoms. The intervals between attacks may vary from a few weeks to a few months, and in some the interval is much longer. The surgical mind has been gradually coming to the consideration of operation between attacks in recurring appendicitis, and it is in support of this operation, in suitable cases, that the following two cases are reported. Case I was operated upon November 14, 1889, and Case II on December 20, 1889.

CASE I. W. G. R., aged nineteen, was brought to me for consultation by Dr. R. L. Hodgdon, of Arlington, Mass. The patient's family history was excellent, and his personal history good, having never been sick except with the present trouble, the history of which is as follows:

Nine months previous to my seeing him he had the first attack, which came on in the early morning with sharp, colicky pain in the abdomen, most severe in the umbilical region, not relieved by a natural movement of the bowels. This pain lasted all day, attended by nausea and vomiting. Towards night morphine by the mouth and subcutaneously was given with some relief.

On the next day the pain was localized in the right iliac region with tenderness, but no tumor or caking. These symptoms gradually ameliorated, and in two weeks he went to business again. From this attack until I saw him, period of nine months, he had eight similar attacks, varying in severity and duration, so that he had only about two weeks of each month in which he was well enough to be about. He did not dare to leave his home to spend the night for fear he might have an attack. He had lost flesh and spirits, and lived in a state of constant dread. Upon physical examination, nothing abnormal could be found, except in the right iliac region, a small finger-like mass could be felt, which, as it rolled from beneath the finger-tips in palpation, caused him pain. The probable cause of his trouble was explained to him and his parents, and operation for excision of the appendix was advised. Two days later Dr. F. C. Shattuck saw the case and confirmed the diagnosis.

The patient entered the ward for abdominal surgery at the Massachusetts General Hospital, and the operation was done November 14th, as follows:

An incision parallel to the linea alba and half way between it and the right anterior superior spinous process of the ilium was made, three inches in length, and extending to within one and one-half inches of Poupart's ligament; all hemorrhage was controlled by hemostatic forceps. On opening the peritoneum and turning up the omentum, a much thickened appendix was found with the omentum adherent to its tip. The adhesions were ligated and divided. The mesentery of the appendix was treated in the same manner. The appendix was ligated one-quarter of an inch from the cecum, and cut off. The lumen of the stump was cauterized with the Paquelin cautery; the omentum was stitched to the cecum in such a manner as to cover the stump. The edges of the peritoneum were united by a continuous silk suture, and the muscles and skin closed in the ordinary manner. Dry antiseptic dressing applied with swathe. An enema of black coffee was given immediately after the operation, and again in four hours. There was some nausea but very little

pain. Wound healed by first intention, and the stitches were removed on the eighth day. The temperature rose to 100° on the second day, and fell two days later to normal, where it remained. Thirteen months have now passed, and there has been no return of former symptoms; he has gained in flesh, is in excellent spirits, and attends to his business.

Examination of appendix by Dr. W. F. Whitney, Curator of the Warren Museum, Harvard University:

"The outer part of the appendix, about four centimetres long, attached by its tip by a firm adhesion to a portion of the omentum. The external surface rough; the mucous surface perfectly smooth, and showed no cicatrices or other evidences of ulceration. It contained a few drops of thin mucus. Microscopic examination showed the thickening to be in the sub-mucous, muscular and peritoneal coats. The mucosa was normal. Diagnosis, chronic peri-appendicitis."

CASE II. Frank B., age twenty-six. Entered the Massachusetts General Hospital, December 7, 1888. Four days previous to entrance was taken with severe pain in umbilical region; violent nausea, retaining nothing on the stomach except brandy or cracked ice. There was tenderness in umbilical and epigastric regions and also in right iliac fossa. General but not marked tympanites. The vomitus was green and bilious in character at times, at others brownish like coffee grounds. Temperature had not risen above 99.8°. Morphine was given subcutaneously and nutritive enemata. Hot fomentations to the abdomen.

On the second day, after admission a small lump could be felt in the right iliac region, and, by the rectum on the right, a hard mass crowding the anterior wall just above the prostate. A small area felt soft, and in its centre a spot so soft as to suggest pus.

On the next day the mass in the iliac region was larger, and it was decided to operate. An incision two inches long was made over the outer portion of Poupart's ligament and an inch above it. This was carried down to the tumor, which was aspirated, but no pus found. An assistant then, with finger in the rectum, pressed the mass upwards and outwards, and with my finger protecting the iliac artery behind, I again introduced the aspirator, and about two ounces of pus was withdrawn. This cavity was opened, and drainage-tube inserted. The case progressed favorably, and was discharged from the hospital about five weeks after operation. Wound closed.

In little less than a year from his discharge he entered the hospital again, in the middle of another attack. When asked how many attacks he had had during the year, his answer was, "So many that I have n't kept count." His condition was as follows: Pain severe, and localized in right iliac fossa. Tenderness there, but only slight resistance on palpation. Above the old cicatrix, however, there was a slightly elongated mass, size of a small plum, tender on pressure. His condition was not such as to demand any active treatment, and in ten days he was practically convalescent.

In view of his numerous attacks and his invalidism therefrom, the operation for the removal of the appendix was explained to him, and he was asked to consider it. The next day he requested it to be done if there was any hope of his recovery.

On December 20, 1889, the operation, as described in Case I, was done. The appendix was firmly bound down by adhesion, and was with difficulty brought up

to the incision. A stitch was passed through its tip to control it, while the omental adhesions were ligated and divided. The proximal end of the appendix for about an inch was firmly adherent to the cæcum, and its walls so thin that in separating the adhesions it ruptured. A ligature was tied between the opening and the cæcum, and the appendix cut off. The other steps in the operation were as in Case I. He made a rapid recovery with no complications. The temperature on the day following the operation rose to 100.8°, and on the next night fell to normal and remained there.

Examination of the appendix by Dr. Whitney: "The outer part of the appendix, 3.25 centimetres long, attached to a bit of omentum by strong adhesions. Generally thickened. The outer surface rough; inner surface smooth. Thickening was shown by the microscope to be in the sub-mucous, muscular and peritoneal coats. The mucous coat normal. Chronic periappendicitis."

Both these cases, from their relapsing character and the severity of the symptoms in some of the attacks, seem to me to have been such as to demand surgical interference, and the operation which was done. Both were fortunate in the result. Case II was most interesting, from the fact that a year prior to the radical operation for removal of the appendix he had been operated upon for abscess due to peri-appendicitis, from which he recovered in the ordinary manner.

ANOTHER SUCCESSFUL CASE OF URETERO-LITHOTOMY.¹

BY A. T. CABOT, A.M., M.D.

In the *Boston Medical and Surgical Journal* for September 11, 1890, I reported a case of operation for the removal of a stone lodged in the middle portion of the ureter.

At that time brief reference was made to another case in which a stone was removed from the lower portion of the ureter in a woman. As this stone was reached and removed in a manner not hitherto employed, so far as I can learn, I will give a more complete report of the case.

Mrs. S., a rather stout woman of thirty-nine, was seen by me, May 15, 1890, in consultation with Dr. J. L. Williams and Dr. W. A. Morris. She had for fifteen or sixteen years been subject to attacks of renal colic, always on the left side, and almost always followed by the passage of stones.

The last severe attack was in December, 1888, but since that time she had had a number of slight attacks during which she had passed twenty or more small stones. The attack in which I saw her began five or six weeks before my visit, and had continued ever since, with pain of varying intensity.

The urine was at times much diminished in quantity, and for several days before the consultation had been very scanty (from four to six ounces a day). It had, during this time, been loaded with urates. On that day it had become more abundant and less thick.

The patient had a good appearance, with moist tongue, quiet and steady pulse and normal temperature. She was perspiring rather freely.

The pain in the region of the left kidney, and run-

ning down towards the bladder, was intermittent and spasmodic in character.

In the left lumbar region was a distinct tumor about as large as two fists, which was sensitive to pressure. There was also a point of tenderness deep in the left side of the pelvis. By vaginal examination, a little hard mass was found in the left broad ligament close to the cervix uteri. This felt about as large as the last joint of the forefinger, and it was very sensitive to pressure. The palpation of it during the examination started a spasmodic pain in the left side, that had bearing-down or expulsive character.

A sound introduced into the bladder could be carried to within about three-quarters of an inch of this little hard mass, but could not be brought in contact with it by the most careful bimanual manipulation.

Dr. Williams had examined Mrs. S. a few days before, and was sure that at that time this hard mass could not be felt. It therefore seemed that the calculus must have moved some distance down the ureter during the time that had elapsed since that examination.

In view of this fact, and also encouraged by the increase in the amount of urine in the preceding twenty-four hours, we decided to wait and see if nature, aided perhaps by manipulation with the finger per vaginam, would not be sufficient to propel the calculus into the bladder, from which it could be easily removed. Soon after this the husband of the patient was taken suddenly sick and died, and owing to the disturbance on this account, nothing was done or thought of for some time. Finally, towards the end of June, the patient entered the Massachusetts General Hospital for operation, if such seemed desirable.

On July 1st, the calculus could be felt in exactly the same place where it had been detected by examination in May.

On July 4th the patient was etherized for operation. An incision was made over the calculus through the vault of the vagina just to the left of the cervix uteri. The calculus was easily reached, the grating of the knife upon it being distinctly felt during the first incision.

After the end which presented had been thoroughly uncovered, it was found that the rest of the calculus was so tightly grasped by the tissues above that it could not be easily extracted. In fact, the presenting end broke to pieces under the grasp of the forceps with which extraction was being attempted. After trying many manipulations in vain, a blunt hook was passed up alongside of the calculus into the ureter behind, then turned and hooked over the upper end, and traction with this, aided with the finger pressing the tissues aside, finally accomplished the removal of the stone.

The moment it came out there was a rush of pus from above. This pus was of ordinary thickness, apparently not much thinned by urine. Probably from ten to twelve ounces escaped. A T-shaped rubber tube was introduced into the ureter through the opening made. After the pus had fully escaped, the tumor in the abdomen was found to have disappeared. The patient made a good recovery, and the urine, which was very scanty just after the operation, gradually increased in quantity until it became sufficiently abundant. Drainage through the fistula was kept up for some time, and finally, when the drainage-tube was removed, there seemed to be no tendency for the open-

¹ Read before the Boston Society for Medical Improvement, October 27, 1890.

ing to close, there being a constant, moderate discharge of pus through it. She recovered strength slowly, as is usual in those cases where the kidneys are seriously involved. She left the hospital on the 25th of July. She continued to gain strength after getting home, and finally was able to be about as usual, doing her ordinary work.

She was last heard from in November, 1890, and at that time there was still a fistula in the vagina, discharging a small amount of pus. No urine ever came through the fistula, showing that the long distension of the kidney during the complete stoppage of the ureter had sufficiently destroyed the cortex, to stop excretion. If at any time the escape of pus into the vagina becomes a serious annoyance, it can be stopped by the removal of what remains of the kidney.

The stone that was removed weighed one hundred and ninety grains. It was elongated, and evidently made up of two stones which had become attached together, as there were two nuclei, one at each end of it. This case shows that a calculus lodged in the lower part of the ureter in a woman can be safely reached through the vault of the vagina without injury to the peritoneal cavity. This is an important fact; for this lower end of the ureter, where it narrows just before entering the bladder, is a not uncommon point for the lodgement of a calculus.

REPORT ON DISEASES OF CHILDREN.¹

BY T. M. BOTCH, M.D.

MITRAL STENOSIS IN CHILDREN.²

THIS paper on the pathological anatomy and mode of development of mitral stenosis was founded on forty cases clinically observed and nineteen post-mortem examinations, all in children under twelve years of age.

Mitral stenosis in its least pronounced degree was evidenced by a ring of granulations around the mitral orifice on its auricular aspect. The subjacent structures were firmer than normal and formed a thickened ring. In more pronounced stenosis the mitral curtains were fused to form a funnel, the ventricular aperture of which might be of varying degrees of patency to the dimensions. The right chambers were almost invariably dilated. Mitral stenosis was not a congenital malformation. It might be considered invariably the result of endocarditis. In every case examined post-mortem there was an association with endocarditis, pericarditis, or both these affections combined. In regard to etiology, the cases showed a very strong association with rheumatism. In the more severe forms of rheumatism mitral insufficiency was a far more frequent result than mitral stenosis, while in the slighter forms the proportion of the latter to the former greatly increased. The author considered that mitral stenosis was the result of a limited and slow endocarditis, while mitral insufficiency was due to the retraction of the mitral curtains, the result of a more widely spread and more intense inflammation. A probable initiatory cause was fright. In such cases a temporary arrest of the heart's action was followed by violent palpitation; and in the disturbed condition of blood-pressure, violence might be done to the delicate valve-structures of the child. So a limited endocarditis might be initiated at the valve edge, the first lesion, perhaps, being mi-

nute hemorrhages such as have been experimentally produced in animals by increasing the blood-pressure in the aorta. The question of prognosis is a difficult one. Taking the ages at death of the published cases, the average was a shorter one than that of regurgitation. Mitral stenosis developed in children may disappear later in life.

PERICARDITIS IN CHILDHOOD.³

Ten cases of this disease in children are reported. Three were under one year of age, three between one and two, and the others between six and ten. Among the causes of the disease during the nursing period of life are mentioned septic-pyemic processes, proceeding either from the mother or the umbilicus; also chronic diseases, especially tuberclosis. It may be due to inflammatory processes in the pleura, lungs, ribs, sternum, vertebral column, bronchial or mediastinal glands, thymus and oesophagus; likewise to inflammation in the abdominal viscera and peritoneum. It is impossible to explain the origin of diffuse pericarditis. In six of the author's cases, it occurred with inflammation of the pleura and lungs; in one, with chorea; in two with scarlatina; and in one it was the only lesion. While in adults and older children pericarditis is manifested by weakness of the apex beat, the latter sometimes being entirely imperceptible, and the heart being forced over toward the left side with its base turned downward, a friction murmur being also perceptible, in very young children all these symptoms are absent. In seven of the author's cases the result was fatal; and the autopsies revealed only a moderate quantity of exudation, not enough to effect the sounds of the heart, its position, or its relation to neighboring organs. The exudation was moderately thick in consistency, contained no fibrin, and was not sufficiently abundant to cause friction sounds. Though the physical signs referred to are often present in older children, they vary as to their appearance, so that great care and watchfulness are necessary lest pericarditis be overlooked. A case is narrated in which such was the case until the symptoms became so urgent that a careful examination revealed the actual condition. The treatment may consist of local applications of ice, and the use of large doses of digitalis. Should the pericardial folds become agglutinated, the condition would be a very dangerous one, the heart muscle becoming more or less paralyzed, and dropsy from stasis becoming more or less extensive. The symptoms which are the most dangerous in this disease, are a small, rapid pulse; subnormal temperature; edema of the cheeks, eyelids, and lower extremities; and slight albuminuria.

TWO CASES OF EMPYEMA TREATED BY ASPIRATION: RECOVERY.⁴

CASE I. A girl, aged eight, admitted to hospital, October 24, 1888, with signs of fluid at base of right chest. Two days later five ounces of pus were removed by aspiration. Four days after this she expectorated a quantity of pus with manifest relief of symptoms, and no fluid was found by hypodermic needle. After two weeks fluid again accumulated, and two ounces were drawn off. From this time she steadily improved, and was discharged, cured, on January 14th.

CASE II. A boy, aged eight, admitted November 1st, 1889, with signs of fluid at base of right chest. November 1890.

¹ Concluded from page 559 of the Journal.

² Lancet, December 28, 1889. Sansom, A. E.: Archives of Pediatrics, October 1890.

³ Archiv. f. Kinderh., xi, 4. Knopf: Archives of Pediatrics, November, 1890.

⁴ Carmichael: Edinburgh Medical Journal, August, 1890. Archives of Pediatrics, August, 1890.

28th, with signs of limited effusion at base of right lung. Pus was withdrawn by hypodermic needle, and again one week later. He was put upon maltine and cod-liver oil, and in two weeks no pus could be found. He steadily improved, and was discharged, cured, on January 14th.

CHOREA AND RHEUMATISM.*

The wide divergence of opinion concerning the relationship between acute rheumatism and chorea, as cause and effect, is well-known. The author has, therefore, recorded the result of an analysis of 146 cases of chorea. The following results were obtained: Of the 146 cases, only 6.16 per cent. could by any possibility be attributed to acute rheumatism as their cause. Rheumatic antecedents, not causal, existed in 35 cases, or 23.97 per cent. A rheumatic inheritance existed in 47 cases. The cause assigned by friends, in 94 cases was nervous strain (fright, distress, and school over-pressure). As regards the condition of the heart, in 20 cases a persistent systolic murmur was audible over the region of the apex; and of these twenty cases, eleven only had suffered from acute rheumatism. A murmur, constant neither in force nor rhythm, was audible over the region of the apex in 64 cases, this murmur entirely disappearing as the patient recovered. It is still commonly stated that rheumatism is one of the most efficient causes of chorea, yet several recent observations tend to results opposed to this view. So long as vague pains in the limbs are admitted as evidence of rheumatism, and the mere presence of a murmur is considered satisfactory evidence of cardiac disease of rheumatic origin, just so long will the ordinary views as to the intimate connection between chorea and acute rheumatism be maintained.

SEVERE CHOREA TERMINATING FATALLY FROM ACUTE PARALYTIC DISTENTION OF THE STOMACH.¹⁰

A girl, aged sixteen years, had suffered from acute rheumatism. Six weeks later she developed severe chorea: at the same time she became melancholic and emotional. She had had no previous attack, and the present one was attributed to anxiety about domestic matters.

There was a loud, musical, systolic bruit, and considerable constant temperature. The chorea became worse in spite of treatment; delirium supervened. The pulse became very weak. It was almost impossible to induce sleep. Then she became better as to the chorea and delirium. Diarrhea and vomiting then came on. There was slight abdominal distension. Three days latter she became profoundly collapsed. The abdomen was greatly distended. She died twelve hours later. There had been no vomiting for the last twenty-four hours, and no urine had been passed.

Necropsy. — On opening the peritoneum a cystic tumor presented itself, and on introducing the hand this was found to be a part of an enormously-distended stomach, which occupied the entire abdominal cavity, extending from the diaphragm on the left, to the right iliac fossa. The intestines were quite empty and collapsed. The wall of the stomach was very much thinned. There were several brownish-red patches in the mucous membrane, as though there had been slight

hemorrhage into its substance. The mitral valve of the heart showed beading of recent endocarditis.

Remarks. — Acute paralytic distension of the stomach causing death in a few hours, with symptoms of profound collapse, is a very rare and very interesting pathological condition. Very few cases have been recorded.

POINTS IN THE PATHOLOGY OF PARALYSES OCCURRING IN THE FIRST TWO YEARS OF LIFE.¹¹

Dr. Henry Ashby, in an article published in the *British Medical Journal*, divides the paralyses of infants into six classes:

(1) Intra-uterine lesions (meningo-encephalitis). Grave lesions may occur in the fetus, and it may continue to live and be born at term. The results of meningeal inflammation appear in the brains of idiotic children, which show atrophy, sclerosis or chronic hydrocephalus.

(2) Meningeal hemorrhage. This occurs under a variety of circumstances during early life; but the invariable immediate cause is asphyxia, the delicate vessels being readily ruptured when distended with venous blood. The most common cause of asphyxia and resulting hemorrhage is prolonged and difficult labor. It may also occur during paroxysms of whooping-cough, violent attacks of vomiting, or convulsions. The bleeding is usually bilateral and most commonly involves the parietal region. The clot separates the pia mater from the surface of the convolutions, tearing the vessels which pass from the pia to the gray matter. The result is interference with the nutrition of the nerve-centres, and more or less degeneration. In a majority of cases there are no symptoms of a surface lesion at first. An extensive haemorrhage may be present without paresis or even convulsions. This is, no doubt, due to the undeveloped state of the cortical centres at birth. Symptoms appear as the child develops.

(3) Syphilitic arteritis and softening. Disease in the brain in connection with hereditary syphilis is not common in young infants. When it does occur it usually takes the form of an arteritis.

(4) Acute cerebral paralysis. Much controversy has taken place with regard to the cause of this condition. It usually takes the form of hemiplegia, and may be due to tubercular meningitis, meningeal hemorrhage, or embolism of the middle cerebral artery. The paralysis appears suddenly, convulsions or an acute febrile disease being present at the onset. The cause of the primary illness is often uncertain and the relation of the convulsions to the paralysis, in most instances, cannot be determined. This is also true of the hyperpyrexia which is frequently present. It has been suggested by Strümpell that a polioencephalitis takes place analogous to anterior poliomyelitis. This is suggestive, but, as yet, only a theory.

(5) Acute spinal paralysis (atrophic paralysis, anterior poliomyelitis). Here the lesions are found chiefly in the anterior horns of the spinal cord, and are regarded by the author as inflammatory in character.

(6) Peripheral paralysis. These play an unimportant part in the paralysis of early life. The group includes diphtheritic paralysis and the various paralyses resulting from injury to the nerves.

* Lancet, December 21, 1889. Syres: Archives of Pediatrics, July, 1890.

¹⁰ Lancet, April 19, 1889. Brown: Archives of Pediatrics, November, 1890.

— The Germans speak of Dr. Koch's discovery as *Weltumwälzende*, and are proud accordingly.

¹¹ New York Medical Journal, October 25, 1890.

Clinical Department.

DOUBLE PRIMARY AND ACTUALLY SYNCHRONOUS AMPUTATION OF THE LOWER EXTREMITIES, WITH RECOVERY.

SERVICE OF J. C. IRISH, M.D., ST. JOHN'S HOSPITAL, LOWELL, MASS., AND REPORTED BY JOE V. MEIGS, M.D., LOWELL.

CHARLES L., a Frenchman, aged twenty-eight years, of good habits, subject to epileptic seizures, and employed by the Boston and Maine System as a switchman. While in pursuit of his vocation on the afternoon of Wednesday, September 17, 1890, he was seized with an epileptic convulsion, fell upon the track, and was run over by several loaded freight-cars. After a needless delay of half an hour he was taken to St. John's Hospital, arriving there at about four o'clock.

On examination he was found to have sustained a crushing of right foot and a compound comminuted fracture of tibia and fibula in middle third, so that lower and middle thirds were hanging to upper third by few shreds of muscular tissue. The left foot, leg and lower third of thigh were terribly crushed, bones and muscles ground together into an almost shapeless mass. Shock was but hardly appreciable, and hemorrhage but slight.

It was decided to amputate and amputate at once. Patient was immediately anesthetized, ether being used, and during etherization Esmarch's bandages were applied to both members and the flat tapes secured above the bandages.

With the assistance of Dr. Wentworth I immediately amputated right leg in the middle third, by circular method; and at precisely the same time Dr. Irish, with assistance of Dr. Bell, amputated left thigh, in middle third. On account of the weakness and the smallness of the pulse, it was necessary to give patient repeated hypodermic injections of ether and brandy alternately; after ligation of vessels and insertion of drainage-tubes, the flaps were approximated, sutured, and stumps dressed with carbolicized solutions and gauze. The time consumed in the operations was about forty-five minutes.

Patient was immediately put to bed, surrounded by hot bottles and covered with warm blankets. He rallied well, but suffered with acute pain. Knowing his epileptic tendency, and rather fearing result of it, he was given hypodermically one-quarter of a grain of morphine; and shortly after, he sank into a sleep, from which he awoke in the early morning almost free from pain, and, as he expressed it later, during my daily visit, "perfectly easy."

Temperature on the second day was 99.1°. The dressings were not removed until fourth day, when drainage-tubes were removed and stumps redressed.

At the end of one week the sutures were removed. Left stump healed by first intention, right stump by second intention, as there was some sloughing of anterior flap. Patient went on, with no untoward symptom except having a convolution every other day, to a complete recovery. I do not claim that primary double synchronous amputations are at all infrequent, but I do say that primary double amputations done at actually the same moment by separate operators are infrequent, and at least worthy of some thought. I cannot remember of ever having read of a similar case, nor can I find any reported in statistics at hand.

In looking up the subject I find that Professor Ash-

hurst, in the "International Encyclopedia of Surgery," says, "Double synchronous amputations are not very rare but (except where the feet and hands only are involved) are unfortunately not usually successful."

I do not find that he reports a single case identical with the case published above; but I do find that he does not regard it as a wise procedure, for he says that the operations (double) will be more apt to be done well if only one be done at a time.

Paradoxically speaking, Professor Ashhurst is both right and wrong. Double amputations when done by one man may be done well, yet result unsuccessfully; while double amputations by separate operators done actually synchronously may not be done quite so well, that is, not so beautifully, yet result successfully.

Which should we choose? I think the latter, for by so doing we lessen the chance of our patient dying, by saving time, which is, it must be evident to all, the one element qualifying the prognosis in operations of this character. Professor Brinton says that "A powerful element in the production of shock is prolonged operation." I believe all will agree with Professor Brinton.

With two surgeons amputating at actually the same time, only about one-half the time is consumed that one man would consume; consequently the tendency for shock to appear is lessened, and the rate of mortality decreased. In conclusion I would say, that, where it is possible for two men to operate actually synchronously, it were better for our patient to sacrifice the beauty and lessen the time, than to attain the beautiful and prolong the time of the operation.

Reports of Societies.

THE NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPEDIC SURGERY.

STATED MEETING, October 17, 1890, V. P. GIBNEY, M. D., Chairman.

NON-UNION OF FRACTURED RADIUS.

DR. C. A. POWERS exhibited a patient in whom this condition had existed for many years, and also showed an extension-apparatus which had given relief. The first fracture occurred twenty-nine years ago, at the junction of the middle and lower thirds. A re-fracture took place eighteen years later, and united with deformity and disability. The radial nerve had become involved in the callus, and this gave rise to such intense pain, that she underwent an operation for its relief five years later, in which the bone was again fractured. All attempts to cause this fracture to unite, failed. When she came under the care of the speaker in May of the present year, it was found that the carpus had slipped upwards with the lower fragment of the radius, and caused the ulna to project very forcibly against the soft parts, giving rise to much pain in the region supplied by the ulnar nerve. As further operative measures were not deemed advisable, a simple extension-apparatus was applied, and had answered admirably.

DR. A. M. PHELPS said that he thought it had been wisely decided not to subject the patient to further operation, as fractures of the radius and of the lower third of the tibia were peculiarly prone to non-union. Out of about three hundred osteotomies, he had had

only one case of non-union, and that was after an operation for the correction of an anterior tibial curve. Operations by himself and others had failed to bring about union. Thomas, of Liverpool, claimed that such fractures could be made to unite by pounding the parts with a mallet; but, in his experience, this method had not proved successful, and he thought that where there was muscle between the ends of the bone, and the peculiar ivory-like condition of the ends of the bone, which was not uncommonly present, none of the methods heretofore proposed were likely to prove successful. He had very recently proposed and performed a new operation, which he thought might prove successful. It consisted in cutting down upon the ununited fracture, freshening the ends of the bone, and grafting in between them a part of the forearm of a dog, both patient and dog being secured in plaster-of-Paris. When the graft had united firmly, the dog's leg would be amputated, and the skin-flaps of the dog united to those of the patient.

HIP-JOINT DISEASE AFTER TYPHOID FEVER.

DR. J. McG. WOODBURY presented a girl of eleven years, who six months after a severe attack of typhoid fever was found to have some limitation of motion and pain at the right hip, with distension of the capsule. Flexion caused lordosis, and some pain. She was treated by counter-irritation over the joint, and a plaster-of-Paris spica bandage, and was allowed to walk around upon a high patten, with crutches. Now, after a period of eight months, there was no pain.

A CASE OF OSTEOMALACIA.

Dr. Woodbury also presented a case of this nature. The patient had lived in Switzerland until twenty-six years old, and had suffered considerably from exposure during the late war. On October 26, 1886, when forty-three years of age, he sustained a fracture of the surgical neck of the left humerus, and between that date and May 26, 1890, he received five other fractures, namely, two of the left humerus, two of the right humerus, and one of the left clavicle. Most of these fractures were caused by very slight falls. During the last three months, but more particularly since the first of last August, a tumor has been rapidly growing between the sites of the two fractures of the shaft of the right humerus. Two small tumors may be observed upon the clavicle—one at the point of the fracture, and the other to the inside of it. A specimen removed from the large tumor with a harpoon was sent to Dr. J. S. Ely for microscopic examination, and he reported that it contained "polyhedral cells, and occasional large spindle and giant cells." He adds, that this "speaks very strongly for sarcoma." A loud murmur, similar to that heard in aortic aneurism, is audible over the large tumor. Dr. Woodbury said that, as in cases of tumor of the middle of the spinal cord, osteomalacia due to trophic disturbances is one of the early symptoms, concurrent with disturbances of sensation, he had referred the case to Dr. M. A. Starr, with the hope of learning more about the etiology of this interesting condition. Dr. Starr examined the patient on two or three occasions—the last time, only a few days ago—and had reported that there was no central lesion of the cord. The patient had had no pain with the fractures, or upon resetting these bones, and this, together with the fact that there

had been no fractures of the lower extremity, seemed to favor the view that the condition was due to syringomyelia or tumors of the cord.

DR. POWERS said that Dr. Woodbury's case of multiple fracture with tumors, was very similar to a case of multiple sarcomata which he had recently presented to the Surgical Section.

DR. V. P. GINZER thought the pulsation in the tumor might be due to the condition of the tumor itself—in other words, it might be a pulsating sarcoma.

ANKLE-JOINT DISEASE.

DR. A. B. JUDSON presented a case of this disease which he said was interesting because the child had suffered from this condition almost all her life. The disease began at the age of one year, and she is now about seven years old. Notwithstanding that she had been under mechanical treatment only two years, she had recovered with but little disability and deformity. There was considerable lateral motion at the ankle-joint; extension was almost normal; flexion was arrested at about ninety degrees. Scars on both sides of the ankle showed where abscesses had opened spontaneously. There was a difference of one inch between the two calves, and the shortening amounted to only a small fraction of an inch. This result had been obtained by the use of a simple brace, and without resorting to any operation.

DR. JOHN RIDLON presented an astragalus which had been removed by Dr. Farquhar Curtis from a child, which had been brought to the speaker when only six weeks old. He had faithfully tried stretching, and the various retentive appliances, during a period of one and a half years. Dr. G. S. Huntington had then operated by Dr. A. P. Phelps's open method, but without improving the condition. The specimen which he presented was interesting on account of two bony prominences which it showed and which apparently had been the obstacle to flexion of the foot.

THE TREATMENT OF ANKLE-JOINT AND TARSAL DISEASE.

The paper of the evening, with the above title, was read by DR. T. HALSTED MYERS, who also presented a patient illustrative of this subject.

DR. Myers said that tubercular inflammation might attack, first, the synovial membrane, later, the cartilage, and lastly, the bone; or the primary local focus might be in the bone.

While it was still confined to the synovial membrane, a number of surgeons recommended erosion. If it had attacked the bone, many more urged operative methods, irrespective of the general health of the patient. The author considered only the latter condition.

Simple incision was of no advantage, for we had no element of tension, as in acute processes, and we only opened new channels of infection, leaving the original disease unchanged.

The usual method of treatment, curetting the abscess walls, and the sinuses, could not be expected to remove all disease, and would greatly increase the risk of absorption. The success which had been secured in some of these cases seemed to be due to the power of the antiseptic agent to render inert the bacilli which remained.

The rational method was to remove all the disease at once; but bones apparently healthy might contain

tuberculous foci, and hence, it was a most difficult problem to know when to stop, and in fact, this could not be determined at the time of operation. If all of the disease were successfully removed, the duration of treatment was less than under conservative methods. The ultimate results were, however, less satisfactory. He had seen a considerable number of misshapen and atrophied feet after operative treatment, which were weak and painful, and required support to render them able to bear the weight of the body. He had not observed such results from conservative treatment. It was confessedly difficult to ascertain the ultimate results; and although Dr. Shaffer had kindly placed the records of the New York Orthopaedic Dispensary at his service, he had not been able in the short time at his disposal to do more in most of the cases than quote the histories.

The number of cases treated before July, 1888, was fifty-five, and of these, he knew personally that at least twenty-one were cured. Five were cases of synovitis, and sixteen of osteitis. The average duration of treatment in the latter was twenty-one and a half months, the longest case being under treatment fifty-five months. The results in all were extremely good; yet under careful private treatment, still better results should be expected.

From our knowledge of the various ways in which the bacilli of tuberculosis may be spread in the body, it would seem that a primary tubercular process in a joint must be extremely rare. Drs. Prudden, Northrup, Biggs and Thacher, to whom he had written for information on this subject, all considered that these affections were generally secondary, but agreed that primary joint lesions did occur. The practical importance of this was that the danger of general infection from a joint lesion which was not interfered with surgically, was an entirely unknown, and probably extremely small, quantity.

Of the whole number treated (fifty-five) but three had died — one of diphtheria, one while tarsal disease was active, and the other, six months after a note of "nearly cured" had been recorded. In neither of the latter was the cause of death stated. However, in Dr. Scudder's report of eighteen cases of excision, six deaths occurred; three were due to the operation, or its direct effects; another might have been; and the other two were from tuberculosis, but occurred one and two years after the operations.

The treatment in synovitis consisted in absolute protection of the joint from traumatism. In children, he considers a perineal crutch absolutely necessary while walking. Ordinary crutches were invariably laid aside at times, and the joint left unprotected. In addition to this crutch, the foot should be protected by a splint to avoid local injuries, and to maintain a good position. There being no involuntary muscular spasm, while the disease was confined to the synovial membrane, traction was not necessary.

In cases of osteitis, the same protection of the joint was imperative, and if there were pain and spasm, indicating the necessity for traction, this could be applied at the ankle, by means of a Dow brace, or the apparatus of Dr. Sayre or Dr. Foster.

The application of adhesive plaster to a painful ankle required more care than a dispensary case was willing to give, especially when abscess was present. For this reason he had found it most serviceable to employ a leg brace, or plaster splint, worn constantly,

and a perineal crutch for walking, which could be laid aside at night; or the Dow brace, as modified by Dr. Shaffer, might be used.

Abscesses should be left entirely alone, and the sinuses simply kept aseptic. After the joint was considered cured, it was well to wear an ankle brace for some months, to prevent twists. The malpositions found in the acute stages, were almost entirely due to muscular spasm, and did not require tenotomy, or other operative treatment.

In the later stages, there might be bony changes, and these, if not painful or progressive, did not require treatment. However, if these conditions did exist, and yet there was no evidence of active disease, an attempt should be made to restore and preserve the normal relations of the parts.

The value of hygienic surroundings during the treatment of these cases, could not be overestimated. His observations had been made on children only, and for contrast, an extended series of cases in the adult would be very valuable. Without exception, every one of his cases of ankle-joint or tarsal osteitis in children had done well under conservative treatment, and he had yet to see the case which he would condemn to erosion or excision.

DR. N. M. SHAFFER said that his own experience led him to think that one point in Dr. Myers's paper should be particularly emphasized, that is, the necessity of absolute protection of the articulation. He had accomplished this in practice, whenever possible, by the use of a modification of Dow's brace, and had found that adhesive plaster was rarely required, as a well-fitting shoe made efficient counter-traction. He thought that the further removed the tuberculous joint was from the centre of the body, the more benign was the disease, and the less the danger of general infection; and he was inclined to speak more strongly of the conservative treatment of ankle-joint disease, than of any other articulation in the body.

DR. RIDLON thought these cases did well with the Dow instrument; but with this, as with some others, we could not secure immobilization, but only protect the joint from the jar of walking. He had seen such excellent results in cases of suppurative ankle-joint disease without any treatment whatever, that he often doubted how much of a good result could be attributed to the treatment received.

DR. H. W. BERG said that he had had such good results in the treatment of phthisis by the administration of the bichloride of mercury in doses of one-twenty-fourth of a grain, three times a day, that he was inclined to believe the old theory that tuberculosis was really a change in the syphilitic virus due to passing through several generations. He considered that splints like Dr. Judson's were imperfect, for, by taking their bearing from the outside of the foot, intra-articular pressure was increased. To diminish this pressure, the foot must be adducted and rotated inwards.

DR. PHLEPS was of the opinion that the vast majority of these cases were cured by immobilization and relief of intra-articular pressure, but in suppurative cases, he believed that the soundest and most scientific surgery demanded operative measures. If we could protect the hip-joint as well as the ankle-joint, we ought to get equally good results in hip disease. He believed that these cases were inoculations of pathogenic germs on a diseased surface, and that they were purely local.

DR. R. H. SAYRE exhibited a splint which his father had devised for an adult with ankle-joint disease. He agreed with Dr. Ridlon, that it was difficult to apply traction at this joint, but he thought this splint solved the problem. His views regarding the prognosis and treatment of this disease, were in accordance with those just expressed by Dr. Phelps.

DR. SAMUEL LLOYD said that fifteen cases of adult ankle-joint disease had been treated in the New York Post-Graduate School, by the so-called conservative method, but the relapses had been very frequent, and he thought this method was less likely to yield good results in adults than in children. In answer to questions from the Chairman, he said that several of the cases were due to injury, and a number of them were suppurative, while four were recorded as synovitis. Two of the cases had been discharged as cured before 1883, and were known to be well in 1889.

DR. JUDSON protested against the statement that cases of disease in the ankle should do equally well without treatment, although neglected cases of ankle-joint disease would have nothing like so bad a deformity as those at the hip.

DR. H. L. TAYLOR also spoke about the different mechanical conditions present at the various joints. The weight of the limb exerted great leverage upon the joint, especially in a spasmotic condition of the muscles. It is more marked at the hip than at the knee, and very much more noticeable than at the ankle. He referred to a case of ankle-joint disease occurring in a distinctly phthisical subject, where the sinuses were treated by injections of a saturated solution of iodoform in ether. The beneficial effect upon the healing process was almost magical.

DR. GIBNEY said that about ten years ago, the surgical section of the "Therapeutic Society" of this city, spent about two years collecting data relative to the comparative results obtained by the operative and non-operative treatment of this condition; and the conclusion was, that the conservative method yielded the greatest number of useful ankles, even in cases where the foot was seamed with cicatrices. There were two or three operative cases having a high degree of equinus, and a stiffened and shortened joint, and one or two flail joints were also shown. In his experience, cases of adult ankle-joint disease, relapsed again and again on the slightest provocation; later on, abscesses would appear; still later, pulmonary signs would develop, and then amputation would follow. As regards the mercurial treatment of tuberculous disease of the joint, he need only call attention to the fact that many years ago the routine treatment for these cases at the Hospital for Ruptured and Crippled, was one-twenty-fourth of a grain of the bichloride of mercury in tincture of bark, three times a day; and the results attained by this treatment were certainly far from striking.

— A Western physician is said to have received the following from a brother physician: "Dear Dock I have a pashunt whose physical sinet shewes that the windpipe has ulcerated off, and his lungs have drop into his stumick I have given hym everry thing without effectt his father is welthy honable and influenshal as he is a member of assembly and god nose I dont want to loss hym what shall I do ans by return male. Yours frat, — — —."

AMERICAN PUBLIC HEALTH ASSOCIATION.

THE Eighteenth Annual Meeting was held at Charleston, S. C., December 16, 17, 18, 19, 1890. A good average attendance was present, especially from the Northern States. Delegates were also present from Canada, and, for the first time, from Mexico.

The Association is one of the largest and most influential of its kind in the world; and its scope should extend to all American countries. It aims at co-operation between all the countries upon the Western continent so far as all matters pertaining to general sanitation, international sanitation, and local hygiene are concerned.

FIRST DAY.—DECEMBER 16TH. MORNING SESSION.

The meetings of the first day, Tuesday, were held in Hibernian Hall, a building which had suffered severely in the earthquake shock of 1886, but like many other public buildings, which were not utterly destroyed, had been so carefully repaired as to show few traces of the great calamity.

At 10 A. M. PRESIDENT BAKER, of Michigan, opened the meeting with a brief address, and introduced DR. HORLBECK, of Charleston, the Chairman of the Committee of Arrangements, who welcomed the Association to the city, and also extended invitations to the members from the various local organizations.

DR. LINDSLEY, of Tennessee, the Treasurer, reported that the Association was in a prosperous financial condition, having a balance of about \$1,100 in its treasury.

On motion of DR. GHION, a resolution was adopted welcoming the delegates from the Superior Board of Health of Mexico, Drs. Orvananos and Gomez.

About seventy-five new members were then elected to membership, representing various parts of the country.

DR. WYMAN, of Aiken, S. C., invited the Association to visit that health-resort, and the invitation was accepted by a large number of the members at the close of the week's session.

DR. ORVANANOS submitted the first paper (translated from the Spanish), entitled

THE FEDERAL DISTRICT IN THE REPUBLIC OF MEXICO, AS A SUITABLE RESIDENCE FOR PERSONS PREPARED TO TUBERCULOSIS, AND FOR THE RELIEF OF PULMONARY CONSUMPTION.

In this paper the author described very accurately the topography and climatic conditions of the country. It was shown that the prevalence of tuberculosis differs very much in the different parts of the country, and that in those parts where the disease was most prevalent, the presence of a large foreign element was a controlling factor. Even among these, post-mortem examinations had shown a considerable ratio of cured cases.

Among the conditions of the high table-land which were deemed to be unfavorable to the development of tuberculosis were cold, dryness and sunlight. At these elevations fog is unknown. Another condition which the writer believed to be hostile to the bacillus tuberculosis consists in the exhalation of the volatile oils of the abundant flora of the region.

DR. L. F. FLICK, of Philadelphia, presented the next paper, entitled

THE PREVENTION OF TUBERCULOSIS; A CENTURY'S SUPERVISION IN ITALY, UNDER THE INFLUENCE OF THE PREVENTIVE LAWS OF THE KINGDOM OF NAPLES, ENACTED IN 1782.

The paper was very largely historical in its character, and the conclusions derived from the successful application of ancient laws were applied to the prevention of consumption under modern conditions.

A paper upon

VENTILATION AND IMPURE AIR AS PROPHYLACTIVE OR CAUSATIVE OF DISEASE,

by DR. REMONDINO, of San Diego, Cal., was presented and read by title only.

DR. WYMAN, of Aiken, S. C., followed with a paper entitled

THE PREVENTION OF PHthisis,

which showed the importance of Aiken as a health-resort for consumptives.

As might be expected, these papers, all treating upon tuberculosis, with special reference to its prevention, awakened a prolonged and lively discussion. The consensus of opinion appeared to be in the direction of more stringent regulations for its prevention, especially as applied to people living mostly in closed apartments, such as hotels, boarding-houses, health-resorts, and to travellers in steamers, cars, and especially in sleeping-cars.

DR. GHION, of the U. S. Navy, offered the following resolution, which was adopted: "That a standing committee of five members be appointed by the President to formulate practical prophylactic measures, for the prevention of the spread of tuberculosis, especially looking to the protection of the healthy members of the community from tuberculous infection."

An interesting fact brought out in the discussion was that the Japanese dispose of their spouts by means of the cheap paper handkerchiefs, which they conceal in their sleeves and destroy by burning. It was also stated that the washerwomen at Aiken, S. C., are especially liable to tuberculosis.

AFTERNOON SESSION.

DR. GIBSON presented, on behalf of the author, a paper by DR. JOSÉ L. GOMEZ, of Mexico, on the

SWINE-RED DISEASE OF MEXICO,

a disease of hogs, the symptoms of which, together with the pathological appearances were so minutely and so accurately detailed by the writer as to provoke the inquiry whether the disease in question was not identical, or nearly so, with hog-cholera, to which the author replied in the affirmative.

A paper on the

SANITARY ADVANTAGES OF THE TURKISH BATH, by DR. C. H. SHEPARD, of Brooklyn, N. Y., added but little to the existing knowledge upon the subject.

PROF. F. P. VENABLE, of the University of North Carolina, read a carefully prepared paper entitled,

SOME NOTES ON CHEMICAL DISINFECTION, being a *résumé* of the present aspect of the subject of chemical disinfection.

The discussion which followed was very largely participated in by the Association, and took a different turn from that which the writer had plainly sought. The discussion was mainly devoted to the possible

harmful effects which might result from the excessive use and application of the bichloride of mercury as a disinfectant. The opinion of those who took part in the discussion appeared to be very much divided upon the subject.

EVENING SESSION.

The evening of the first day was devoted, as usual, to the President's address and to the formal reception of the Association by the city authorities. The meeting was held in the Grand Opera House; and, in consequence of the unusually low temperature, the audience was small.

DR. BAKER, the President of the Association in his

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reviewed the objects and aim of the organization, as expressed in its name, and referred briefly to the increasing geographical limits of the Association, as shown by the admission in recent years of delegates from all the British North American provinces and from Mexico.

He spoke of the thorough sanitary work and investigations of the English and German governments.

In referring to the subject of quarantine, Dr. Baker said that this was but a small part of the actual sanitary duty of the general government. It should investigate the causes and conditions of infectious diseases, especially in localities where they are known to prevail, and for such purposes a Health Department of the Interior is needed.

He favored the liberal bestowing of government aid upon all departments of sanitary inquiry, and commended the action of such State governments as had supported the work of their State Boards of Health by liberal appropriations. Congress had been given constitutional authority to attend to the general welfare of the people, and this could not be better secured than by providing means for the investigation and the prevention of disease. Economics—political questions, such as protection and free trade—were of small consequence when compared with governmental protection of life and health.

The other exercises of the evening consisted in addresses of welcome by eminent citizens, DR. BUIST representing the medical, and J. D. K. BRYON, the legal professions. Both addresses were extremely eloquent.

DR. VEDDER, the eloquent pastor of the Huguenot Church, closed the programme with a constant fusilade of wit and humor.

The speaker went on to formulate the charge against the Health Association, of seeking to find and eradicate the seeds of human malady, and thus interfering with the livelihood of our many and good and well-beloved physicians, taking the bread out of their mouths by forbidding them to put bread pills in the mouths of others. And though our doctors gave them welcome and were glad of their advice and aid in thus playing at cross-purposes with their bread and butter, yet the community would not stand silently by and see its endeared medical men thus ruthlessly immolated upon the altar of self-sacrifice; and, therefore, the community had adjudged that the members of this Public Health Association should be visited and persecuted by all forms of public and social attention and courtesy, be immured in a building where they must wrestle with bacteria, bacilli, mephitic vapors and miasmatic conditions, and like savory matters, whilst

the community looked on, uninterfering and unpitying. From time to time, to aggravate their imprisonment by contrast, they were to be taken out and around our city, to bemoan the fate that compelled them to live elsewhere, save, of course, in the favored localities, so much like Charleston, where they did reside; taken into our homes, so much sweeter than any others, except, of course, their own; to be made to get, if not "half seas over," at least "over the bay," by being taken down to the Bar; to be invited to ride in railway coaches where no dust could penetrate; and to explore our splendid system of drainage, without any drain upon their susceptible olfactorys, etc., etc.; and when they had reached the limit of human endurance, and were ready to go, to see their persecutors, so unaffected by compunctions as to be willing to endure the whole programme, and hear them giving to the Health Association the hearty send-off: "Come again, as soon, as often, and in as great force as possible." The jury of the city has been polled, and it cries: "So say we all."

SECOND DAY, DECEMBER 17TH.
MORNING SESSION.

The first regular paper of the second day's session was a report of the Committee on Diphtheria presented by Dr. ASHMUN, of Cleveland, O., the chairman of the committee. The report estimated the annual mortality from this disease in the United States and Canada at 10,000, and the number of cases 40,000. Climatic, local and contagious causes were enumerated by the Committee, as well as the probability that domestic animals may be concerned in its spread. The apathy of boards of health in resisting its spread was especially noted, and the establishment of disinfecting stations, and the isolation of diphtheria patients, advised.

A lengthy discussion followed, in which the prominent fact which was brought out was the permanence of the infection in houses and apartments once infected.

The next regular paper was presented by Dr. S. W. ABBOTT, of Massachusetts, and was entitled,

WHAT CONSTITUTES A FILTH-DISEASE?

The writer prefaced his paper by stating that the term filth-disease conveyed to the popular mind an erroneous impression, namely, that filth was an actual cause instead of a condition, and that unless this was clearly understood, the administration of local sanitary work could not be intelligently performed. Many instances were cited in support of this view.

"We may reasonably conclude," said the writer, "that a filth-disease is one in relation to which filth in some form or other, either wet or dry, plays the part of an important factor only in causation, but is not itself the direct cause; that it acts either as a favorable soil for the propagation of disease-germs (other favorable conditions also existing), or that it acts as a suitable medium or vehicle for the transmission of the *particulate contagium* from the sick to the well, as is probably the case in the inhalation of the bacillus tuberculosis in and with the dust of filthy or ill-ventilated apartments.

"We may also conclude that the filth which promotes the spread of infectious diseases is specific filth.

"The point to be emphasized in the foregoing paper is, not that the removal of filth should in the least de-

gree be discouraged, but, that when done, it should be done intelligently and with this principle in view, that filth is a condition rather than a cause, that it is the soil for the culture and transmission of infection and not the infection itself, and just so far as the principle of infection is deprived of its proper soil, so far is one of the most important conditions of its growth and propagation removed."

DR. GEORGE T. KEMP, Director of Physiology and Experimental Therapeutics at the Hoagland Laboratory, of Brooklyn, N. Y., spoke upon

THE VALUE OF MICROSCOPICAL, CHEMICAL AND SPECTROSCOPICAL EXAMINATIONS OF BLACK VOMIT, AS AN AID TO HEALTH OFFICERS IN THE DIAGNOSIS OF YELLOW FEVER FROM MALARIAL FEVER.

He had made cultures, and presented samples in tubes in illustration of his subject.

In the afternoon, the Association enjoyed a diversion from its usual programme, by taking a trip of about twenty miles out into the country, to visit an old historic building, the old church at Goose Creek, built in 1706. It is in a comparatively deserted region, surrounded by the immense live-oaks with hanging moss and other semi-tropical plants of this climate. Attached to the train which conveyed the Association was a car ventilated by a new method, the motive power for producing a current of air being furnished by the wheels of the car. The fresh air, when introduced, is deprived of its smoke and cinders by passage through water. The air passes into the car through small tubes at the sides of the car, and the foul air is withdrawn at the top.

(To be continued.)

Recent Literature.

Cyclopaedia of the Diseases of Children. Edited by JOHN M. KEATING, M.D. Vol. IV, 1128 pages. Philadelphia: J. B. Lippincott Company.

The fourth and last volume of this great work is fully up to the high standard of the other volumes. Containing much that will interest the specialist, it is evidently written with the needs of the general practitioner in view.

Part I is devoted to "The Diseases of the Ear in Children," by Charles H. Burnett. The subject is treated in a very thorough and clear manner, and special stress is laid on the treatment of such accidents as a foreign body in the ear, and of ear-ache, which frequently fall to the lot of the general practitioner. A good deal of his advice is on what not to do. Against "ear-drops" he is particularly outspoken; and he says, "There are no 'drops' which can relieve ear-ache in children."

Part II, "The Eye," contains articles by G. E. de Schweinitz, C. S. Turnbull and C. A. Oliver. The latter writer deals with the subject of "Ophthalmoscopy," in an article of nearly one hundred pages, illustrated with many excellent plates. The value of this study in diseases of the circulatory, nervous and other systems, and in general diseases, is discussed at length, and with its numerous references to papers and cases reported, the article will form for some time to come an important work of reference.

Part III, "Hygiene," to which two hundred pages are devoted, contains much of general interest; but it is impossible to more than allude here in the briefest way to this division. The article by Keating and Young, on "Physical Development," is particularly interesting, and is profusely and beautifully illustrated, some of the plates being reproductions of Muybridge's well-known photographs. The Swedish system of gymnastics is explained in detail, and the different motions are figured. The article on "Prophylaxis," by J. W. Byers, is a little disappointing; and one is surprised to find the burning of sulphur so highly esteemed as a disinfectant. The omission of everything on the question of the duration of isolation in contagious diseases is probably intentional, as this is thoroughly discussed in the article on "School Hygiene," by D. F. Lincoln, an article filled with valuable information and suggestions.

The other articles in this division are on "Massage," by Wm. A. Edwards; "Construction of Children's Hospitals," by Lindley Johnson; "Juvenile Crime," by J. P. Keating; and "Medico-legal Testimony," by Jerome Walker.

Part IV, "Diseases of the Nervous System," contains in some six hundred pages a series of monographs by well-known specialists, the mere mention of whose names would suffice to show the great value of the articles. Among these may be mentioned the Introduction by A. M. Hamilton; "Cerebral Palsies and Suppurative Meningitis," and also the article on "Epilepsy," by L. C. Gray; "Tubercular Meningitis," by A. Jacobi; "Cerebral Haemorrhage and Chorea," by B. Sachs; "Toxic Affections from Arsenic and Lead," by J. J. Putnam; "Poliomyleitis Anterior," by Wharton Sinkler; "Hereditary Ataxia," by C. L. Dana; and other equally valuable papers which space does not permit us even to mention. In a word, this volume is a worthy companion of the other volumes to which so much praise has already been given.

C. W. T.

The Medical Bulletin Visiting List, or Physician's Call Record. No 1. Arranged upon an original and convenient monthly and weekly plan for the daily recording of professional visits. Philadelphia: F. A. Davis, Medical Publisher.

The "original plan" on which this visiting list is arranged consists in the insertion of half-leaves or stubs in such a fashion that when the first week is completed, the record of the following weeks of the month is made on the half-leaves without rewriting the names. It is offered in three styles: No. 1 provides for seventy names per month, which the publishers consider will meet the requirements of an ordinary practice. It not only obviates the necessity of writing a new list of names every week, but makes a somewhat less bulky book for the pocket. It contains blank spaces for memoranda, and a list of doses of the more recent drugs copied (by permission) from Merck, with other useful information, and a fee-table with double column giving charges for city and country.

— *Sympathetic Visitor.* "Mrs. A., what do you suppose makes you suffer so?"

Mrs. A. "I don't know, I'm sure, and I believe nothing but a post-mortem will ever show."

S. V. "You poor thing! You are so weak you could never stand that!"

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ANNUS MEDICUS MDCCCXC.

THE past year has been a busy one in the medical world, and one in which public attention has been more than usually directed to medical matters. It opened during a world-wide epidemic of influenza, and is now closing in the midst of the excitement and hope which centre around Koch in Berlin. The intermediate months have not been without their share of interest. A most successful medical congress has attracted the attention of a large number of the profession. Cholera has left its habitat and invaded some countries and threatened others. Neither has the year been lacking in matters of more local interest nor in the steady progress of medical science.

EPIDEMICS.

Epidemic influenza, commonly known as "the grip," which for the first time since 1847 visited the greater part of the world, has been the subject of much discussion and study during the year. It may be roughly said that its general course was from east to west, occasionally turned aside by mountain systems and land divisions, but advancing, often with great rapidity, against prevailing winds. There was absolutely no regularity in time in its advance; appearing nearly a fortnight later in England than on the eastern coast of North America, it was sometimes two weeks in going from one town to another only a few miles apart. It appeared in Russia in October, 1889, and soon spread to St. Petersburg and the neighborhood of the Baltic Sea. During the first half of December, central Europe was its seat, but its advance was most marked in the last half of the month. During this time it spread over a large part of Europe, the eastern portion of North America, and became established in Great Britain. The first of the year was almost the central point of time of the epidemic in Boston, which was one of the first places visited on this continent. In towns only a short distance from us, and in cities farther west, it was at its height from one to three weeks later. After this it continued to advance generally westerly and to the south until April, with decreasing intensity, except

that it appeared in Japan in April, with a good deal of energy. It did not spare either the arctic circle or the torrid zone, isolated islands or ships at sea.

In consequence of the epidemic a vast amount of money was spent, business paralyzed and many lives lost, either directly or indirectly. The greatest damage was done in December and the first half of January. The death-rate of cities increased enormously for three or four weeks, the highest attained generally being from two to three times the usual rate. The cause assigned was seldom influenza itself, but almost universally pneumonia, broncho-pneumonia or the lighting up of a chronic lung trouble.¹

After the beginning of summer we heard but little of the epidemic until within a few weeks, when it seems to have rekindled in a few places, in October in Denmark, and in November in Hungary, some parts of Germany, Great Britain and Japan. It is, however, improbable that we shall have another general outbreak at present.

Cholera during the past year again invaded Europe, and for a time threatened the whole of the Mediterranean seaboard. At the beginning of the year it was present in Mesopotamia and Persia, and more or less in Turkish Arabia. In April it appeared in Turkey, but not to an alarming extent. On the 13th of May it broke out at Puebla de Rugat, a small village of seven hundred inhabitants, in the valley of Albaida in Spain, and in a month spread through the province of Valencia. During July, August and September it spread through five provinces, increasing in severity; it then began to decline, and is now fast disappearing. Toledo and Madrid were visited; but the greatest losses were in some small towns, which were nearly depopulated. It was in western Europe practically confined to Spain, where up to November 20th there had occurred during the epidemic 5,477 cases, of which 2,840, or 51 per cent., had been fatal. Formerly such an outbreak in Spain would have meant extension to other European countries.

In July the cholera began to spread in all directions from Mesopotamia and Persia. It broke out at Mecca in the middle of the month, and finding favorable conditions in the annual pilgrimage to that city, killed an enormous number, probably tens of thousands, of devout Mussulmen. It spread to the borders of Russia, through Egypt and along the northern shore of Africa, and also eastward. It was active in Japan early in the summer, and spread, with ever-increasing violence, until September. The extent of the epidemic in the empire may be appreciated from a report of October 2d, which said that up to that time there had been 33,863 cases with 22,560 deaths.

Small-pox as an epidemic has not appeared during the year, except in Madrid and Lisbon and recently in Guatemala. In Madrid there were 138 cases in August, 421 in September, and 654 in October. The

¹ An account of this epidemic, especially as it existed in Massachusetts, may be seen by turning to pages 49, 59 and 547 of this volume of the Journal.

mortality appears to have been about 65 per cent. The epidemic in Lisbon appeared later, and it is too early to learn its extent. Other places have been more than usually afflicted. Holland, becoming alarmed, resorted to more vigorous vaccination. St. Petersburg had a large number of cases during the past month. Milan has entirely recovered from its visitation of a year ago. Those countries where vaccination is enforced have remained comparatively immune.

Other epidemics have not been particularly noticeable during the year. Yellow fever has been present, as always, in Havana, and other places in the West Indies, but did not get a foothold in the United States. Dengue has been epidemic at Smyrna, and has attacked four-fifths of the population of one hundred and fifty thousand. In some places influenza was mistaken for this disease. Bubonic plague appeared in Turkey at Kale-Daragehan, a village of two hundred and eighty inhabitants.

MEDICAL LEGISLATION.

The tendency in the United States to pass laws limiting the practice of medicine to qualified practitioners is increasing, especially in the West. As one State after another drives medical adventurers from their borders, the neighboring States become more and more overrun by these gentry, and look with greater favor upon medical laws. The difficulty of drawing up a satisfactory statute is a great stumbling-block, and has resulted in defeat of medical legislation in several States.

Congress has enacted a law to prevent the introduction of contagious diseases from one State to another. Whenever cholera, yellow fever, small-pox, or plague exists in any State or Territory, and there is danger of the spread of such disease into other States or Territories, the Secretary of the Treasury may promulgate such rules and regulations as may be necessary to prevent the spread of such disease. The said rules and regulations shall be prepared by the Supervising Surgeon-General of the Marine Hospital Service. Any person who shall willfully violate any rule or regulation so made shall be guilty of a misdemeanor, and shall be punished.

Congress has also passed a bill to prevent adulteration and misbranding of food and drugs. The Department of Agriculture shall organize a division for examining and analyzing food and drugs, and all such found adulterated or misbranded shall, under penalty, be prevented from being imported into any State from any other State or foreign country.

A bill has been introduced in the United States Senate establishing a board of medical examiners for the District of Columbia. The bill provides that the board shall consist of ten physicians or surgeons, three dental surgeons, and in addition five homoeopathic practitioners of medicine, the term of office to be four years. The board is to prescribe rules and

regulations for the examination of all candidates for the practice of medicine appearing before it, who having passed a satisfactory examination and registered, shall then be allowed to practise.

Congress has recently passed an act for the District of Columbia requiring the notification and isolation of cases of scarlet fever and diphtheria, and providing for the placarding and disinfection of the premises. The bill is believed to be a model one for municipalities.

The New Jersey legislature passed a law regulating the practice of medicine, which requires all physicians to pass an examination before a State board of examiners before they can be licensed, and imposes a fine of from fifty to a hundred dollars, or imprisonment for from ten to ninety days, or both, for practising in the State without a license. The board of examiners consists of nine members, appointed by the governor for terms of three years, which board shall consist of five regular physicians, three homeopaths and one eclectic; and no member of any college or university having a medical department shall be eligible. Those physicians already in practice do not come under the provisions of the law. A peculiar feature of this law is that many New York and Philadelphia physicians who have been in the habit of practising in New Jersey are disqualified.

A medical law has been passed by the new State of Washington, which in the short space of six months has already developed curiosities. A law was passed that all persons, before practising medicine should be examined and licensed by a State board, appointed by the governor. The governor appointed on the board four regular practitioners, three homeopaths, a "physio-medic," and an eclectic. It is difficult to learn what a "physio-medic" is. The irregulars combined, elected their candidate president of the board, and placed such other members as they pleased in office. The board adopted rules to the effect that a general average of sixty-five must be made by all but old graduates (of at least five years' standing), who need not average as high in chemistry, physiology, or anatomy as graduates of less than five years' standing. Each member of the board was given subjects on which to prepare questions in writing. Some of these questions have gone the rounds of the medical press as jokes, as for instance one asked by the eclectic, "What is the effect of too much red blood-corpuscles in the blood?"

State medical practice bills were defeated in Maryland and Rhode Island.

In New York several bills of medical interest were passed. Among them one providing that all of the pauper and indigent insane in all the counties of the State, except New York, Kings, and Monroe, shall be cared for and maintained by the State. The number of insane affected by this bill is a little less than 2,300.

The New York anti-smoking law, which went into operation September 1st, says: "No child actually or

apparently under sixteen years of age shall smoke or in any way use any cigar, cigarette, or tobacco in any form whatsoever in any public place."

The following law also went into effect in that State on the same date: "Should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty, under penalty, of such midwife or nurse so having charge of such infant to report the fact in writing within six hours to the nearest health officer or some legally qualified practitioner of medicine, of the city, town or district in which the parents of the infant reside."

EXECUTION BY ELECTRICITY.

After a long series of delays and appeals to different courts, the first execution by electricity took place in New York at Auburn Prison on August 6th. The criminal was William Kemmler, whose name has become widely known as that of the first victim of the new method of killing. The apparatus consisted of a dynamo capable of generating an alternating current of 2,000 volts, with a death-chair, and suitable electrodes, the victim completing the circuit. Only two or three minutes were consumed in adjusting the appliances. When the current was turned on, in an instant the victim was apparently driven into a shrinking, crouching, rigid mass, with the exposed features in a grin, and the muscles of the entire body in fixed and rigid spasm. He remained in this condition for seventeen seconds, when the current was interrupted and the muscles became relaxed. Seventy-three seconds after the current was turned off a slight heaving of the chest was noticed, and this was immediately followed by slow, rhythmical, stertorous breathing. By some mistake it was two minutes before the current was turned on again. Then the same phenomena were repeated, and the culprit was kept under the full power of the instrument — fourteen hundred volts — for two and one-quarter minutes, when all the unpleasant symptoms disappeared.

Many sensational accounts of the so-called electrocution appeared in the daily papers, describing the scene as barbarous; but in an official report to the governor, Dr. C. F. McDonald says that when properly understood, the first execution under the new law will be regarded as a successful experiment. In spite of certain minor defects the important fact remains that unconsciousness was instantly effected, and that death was painless. The movements were reflex, and no more than were to be expected, and occur to the same extent in decapitation. The breathing could not be considered as a return of normal respiration.

THE TENTH INTERNATIONAL MEDICAL CONGRESS.

The Triennial International Medical Congress was held this year in Berlin. It was in all respects an unqualified success. Never before has there been so large an attendance, the total number of members be-

ing 5,737, of which 683 were from the United States and Canada. The first general meeting of the Congress was held in the Circus Renz on Monday, August 4th. It was called to order by Professor Virchow, who delivered the Address of Welcome. Secretary-General Lassar then made his report. Minister von Boetticher, as the representative of the German Empire, followed with an address. Minister von Gossler welcomed the members on behalf of the Prussian State. Other addresses were delivered by Herr von Forckenbeck on behalf of the city of Berlin, and Dr. Graff, President of the German Medical Society. Addresses from the foreign members then followed. Surgeon-General Hamilton spoke for the United States. Professor Virchow was unanimously elected president of the Congress. General addresses were delivered by Sir Joseph Lister, Bart., on "The Present Position of Antiseptic Surgery"; Dr. Robert Koch, on "Bacteriological Investigation"; Dr. Boucharde, on "The Mechanism of Infection and Immunity"; Dr. Axel Key, on "The Relation of the Development of Puberty to Diseases of School Life"; Dr. H. C. Wood, "On Anesthesia"; Dr. Cantani, "On Antipyretics"; Professor Meynert, on "The Co-operation of the Parts of the Brain"; Professor Stokvis, on "Colonial Pathology."

The order of proceedings was as follows: Saturday, August 2d, opening of the Medico-Scientific Exhibition in the National Exhibition Building. Monday, August 4th, opening of the Congress in the Circus Renz; constitution of the Sections in the sectional meeting rooms in the National Exhibition Park; in the evening social reunion of members and ladies in the Exhibition Park. Tuesday, sectional meetings; in the evening reception of members in the Rathaus by the Municipality of Berlin. Wednesday, general meeting, Circus Renz; sectional meetings; in the evening sectional dinners, to some of which ladies were invited. Thursday, sectional meetings; in the evening a ball. Friday, sectional meetings; in the afternoon Court reception at the New Palace at Potsdam by special invitation. Saturday, sectional meetings; at noon final general meeting; in the evening farewell dinner to members of the Congress, given by members of the profession in Berlin.

At the Medico-Scientific Exhibition, in addition to the usual exhibit of surgical appliances and pharmaceutical preparations, there were shown anatomical, histological, and pathological specimens, models of field hospitals, conveyances for the wounded, methods of bacteriological investigation, and many other objects of interest to medical men.

Professor Virchow delivered the farewell address, and Dr. Billings spoke in behalf of American members, expressing their thanks for all the courtesies they had received.

The medical profession of France just escaped making themselves ridiculous. Their patriotic emotions combined with a doubt of their cordial reception, caused a long deliberation as to whether they should

attend a congress in Berlin. They finally decided to go, and were received by their German *confrères* with open arms.

The United States Army was represented by Drs. John S. Billings and Charles H. Alden; and the Navy by Medical Directors Albert L. Gihon and David Kindleberger.

The most noteworthy occurrence of the Congress was the reading of his paper by Professor Koch. He is said to have read it against his will, very probably anticipating what has since occurred, that a premature and incomplete announcement of his work would place him in a false position in the eyes of a large part of the world.

KOCH'S METHOD OF TREATING TUBERCULOSIS.

It was known that Professor Robert Koch in Berlin, had been engaged in experiments on preventive inoculation, and as the International Medical Congress was to meet there in August, he was practically forced by the authorities to deliver an address on the subject, consequently he said that it was not his custom to publish his investigations until they were completed, but he would make an exception this time. He had not only succeeded in conferring upon guinea-pigs, which are known to be peculiarly susceptible to tuberculosis, perfect immunity against that disease, but had also discovered means of arresting the growth and multiplication of tubercle bacilli after injection of a fluid. If he should be equally successful with tuberculosis in man, it was not too much to hope that means would be found for successfully combating other diseases.

Considering the reputation which Koch had earned, not only for great scientific ability but also for the accuracy of his statements, it is no wonder that this paper produced the most profound sensation in the medical profession, and through it in the world at large. And when two months later it was discovered that a considerable number of patients were being treated under Koch's direction, the excitement and curiosity became so intense that it was finally impossible longer to resist, and he published an account of the clinical results of treatment by a new method up to that time.

The paper appeared first in the *Deutsche Medicinische Wochenschrift*, on November 14th, and said that in spite of all precautions, so many accounts had reached the public, and in such an exaggerated and distorted form, that it seemed imperative, in order to prevent false impressions, to give at once a review of the position of the subject at the present stage. As regards the origin and the preparation of the remedy, he considered himself unable to make any statement, as his research was not yet concluded. He reserved this for a future communication. The remedy is a brownish, transparent liquid, which does not require special care to prevent decomposition. For use, this fluid must be more or less diluted, and the dilutions are liable to undergo decomposition if prepared with distilled water. He then described the different phenomena observed

up to that time after injection of this fluid. Koch did not grow enthusiastic over the possible value to medical science; all that was done for him by others and then often credited to him. He pointed out the use of the method in the diagnosis as well as in the treatment of tuberculosis, and said that as it seemed that incipient pulmonary tuberculosis was much more favorable for treatment than in a later stage, early diagnosis would in future be of importance.

Since this paper by Koch but little has been learned on the subject. The supply of the fluid has been limited, but some has now reached America. The late clinical observations have not differed materially from those described by Koch, and it will probably be some time before the exact value of this new therapeutic agent is known.

In view of the action of Koch's fluid on tubercular lungs, a fresh impulse seems to have been given to pulmonary surgery in Berlin within the last few weeks.

MISCELLANY.

The Convention for the Seventh Revision of the United States Pharmacopœia was held in the city of Washington, May 17th, and was called to order by Dr. Robert Amory, the president of the last convention. The session lasted until the 10th. There were about two hundred delegates present sent by incorporated medical and pharmaceutical societies, also representatives of the medical departments of the army, navy and marine hospital service. The committee of final revision of the last pharmacopœia presented a draft of the general principles which they recommended. These were discussed and either adapted or referred to the new committee. Dr. H. C. Wood was made president of the convention, and a committee of final revision consisting of twenty-five members was chosen.

The United States Census was taken in June. Great excitement was caused among the laity by the addition to the usual questions asked in census-taking of those relating to physical conditions. Besides the name, age, sex, color and occupation, the census enumerator was required to ascertain whether the person was insane, feeble-minded or idiotic, blind, deaf, dumb, crippled, maimed, lame, deformed, or suffering from acute or chronic disease. It is probable that the answers obtained will not be worth using for statistics, especially as a circular sent to each physician asking about his patients was very commonly not returned.

The Pan-American Congress made a unanimous report, in which it condemned absolute isolation in preventing the spread of epidemics, and recommended in its stead the disinfection of all articles from infected localities before they are permitted to be imported into healthy places.

The Johns Hopkins Medical School has agreed to take female students on the same conditions as male as soon as the sum of \$500,000 has been raised. A number of women have already raised \$100,000, and deposited it with the trustees.

The New York Academy of Medicine opened its new, magnificent building on November 20th. There was a very large attendance of members of the profession and ladies, as well as of distinguished laymen. The library is in a thoroughly fireproof apartment; the grand assembly hall and other rooms are well adapted to their purposes, with the unfortunate exception that the great hall does not seem to be acoustically perfect, it being difficult to hear in some parts of the room.

Leprosy has attracted a good deal of attention during the past year. The Indian government has been at work devising means for isolating and caring for lepers. Some new cases have appeared in Minnesota, and isolated ones in other States. The United States government has issued an order that no vessel shall be admitted to entry until the master shall produce a certificate that no person affected with leprosy was on board the vessel when admitted to free pratique, or, in case a leper was on board such vessel, that he or she, with their baggage, had been removed and detained at quarantine.

Succi, the famous fastner, completed a period of forty days in London in May, and later coming to New York, commenced a fast of forty-five days on November 5th.

Hypnotism has attracted an increasing amount of notice during the year, both from the medical profession and from the laity. Belgium has passed a law regulating its practice. What promises to be a *cause célèbre* is now on trial in France, in which a man and woman are tried for murder. The defence of the woman is that she was hypnotized by the man, and consequently not responsible for her act. The medical testimony seems to be divided.

The depopulation of France is a subject which, for some time, has agitated the French people. The question has been discussed this year at great length by the Académie de Médecine and other bodies. As causes, were given: the lack of care of illegitimate children, the military service, the pecuniary difficulties of large families, the large numbers of prostitutes, the late age of marriage and several others. Among the remedies proposed were: better care of unmarried pregnant women and illegitimate children, change in the military laws and laws of inheritance, a tax on bachelors and remission of tax on men with large families. Although the population is not now actually decreasing, the increase has practically stopped, which is not the case in most of the other countries.

Surgeon T. H. Parke, who arrived at Zanzibar with Stanley, having been through Africa with him as surgeon of the expedition, has been the object of well-deserved praise, not only from his chief, but from many high officials and societies, for his admirable conduct and his skill during his service.

The office of Surgeon-General of the United States Army was at the opening of the year occupied by

Dr. John Moore, who, in September, reached the age of retirement. The president then appointed Dr. Jedediah H. Baxter, who died December 4th. Charles Sutherland, M.D., senior medical officer, has recently been nominated for the vacant office.

The McKinley Tariff Bill has some features that will interest medical men. It allows the importation free, of books and pamphlets printed in any language but English, and of periodicals in all languages. Opium is put upon the free list. Other changes in the tariff on drugs were made, but they are not likely to affect the retail price to any extent.

The first Japanese Medical Congress was held in the early part of April in Tokio. The attendance was estimated at about three hundred, all of them being Japanese, the foreign physicians resident in Tokio taking no part.

The Longue Pointe Insane Asylum, near Montreal, Canada, caught fire, on May 6th, and was destroyed, with the loss of nearly fifty lives. The fire started in mid-day, but, despite this, the building was so inflammable and the means of arresting the flames so inadequate, that a great and shocking loss of life and a great many serious injuries resulted. The institution held about a thousand patients.

An accident at Quincy, Mass., occurred August 19th, on the Old Colony Railroad, in which about twenty persons were literally steamed to death, by being caught in a car which was thrown on top of an engine, allowing the whole contents of the boiler to escape into the car. Several were injured, mostly by steam, and removed to a new hospital recently built in the town.

A Pasteur Institute was opened in New York on February 18th, under the management of Dr. Paul Gibier, for preventive inoculation for hydrophobia. After having been open for eight months 610 persons had applied for treatment, having been bitten by dogs or cats. Of these, 480 were sent back after having their wounds attended to, it having been demonstrated that the animals were not mad. In 130 cases treatment was applied, after evidence that the offending animal had hydrophobia. All of those treated are doing well.

Among the scandals and abuses to which the attention of the medical profession has been drawn during the past year may be mentioned the early age of the girls at marriage in India, where sexual relations are often begun prior to menstruation; and the habit of ether intoxication in some parts of Ireland. Attention has also been more than usually directed to the slave trade and cannibalism in Africa, on account of the interest taken in that continent in connection with Stanley.

ANNUAL MEETINGS.

Some of the more important annual meetings of the year have been as follows:

The National Association of Railway Surgeons held its annual meeting at Kansas City, May 1st; the

Association of American Physicians held its fifth annual meeting at Washington, May 13th to 15th; the American Surgical Association held its meeting at the same place and time; the American Medical Association held its forty-first annual meeting at Nashville, Tenn., May 20th to 23d; the American Laryngological Association held its twelfth Annual Congress in the Johns Hopkins University, Baltimore, May 29th to 31st; the American Association of Genito-Urinary Surgeons held its fourth annual meeting at Altoona, Pa., June 3-4th; The sixteenth annual meeting of the American Neurological Association was held at Philadelphia on June 4th to 6th; the Massachusetts Medical Society held its one hundred and ninth annual meeting in Boston, June 10th and 11th; the American Otological Society held its twenty-third annual meeting on July 15th, at the Hotel Kaaterskill, Catskill Mountains; the American Climatological Society held its annual meeting at Denver, September 2d, 3d, 4th; the American Dermatological Association held its fourteenth annual meeting at Richfield Springs, N. Y., September 2d to 4th; the American Orthopedic Association held its fourth annual meeting at the College of Physicians, Philadelphia, September 16th to 18th; the American Gynecological Society held its fifteenth annual meeting in Buffalo, September 16th to 18th; the American Association of Gynecologists and Obstetricians held its annual meeting in Philadelphia, on September 16th to 18th; the American Rhinological Association met at Louisville, Ky., October 6th to 8th; the Mississippi Valley Medical Association held its sixteenth annual meeting at Louisville, Ky., on October 8th to 10th; the Southern Surgical and Gynecological Association was held at Atlanta, November 11th to 13th; the American Public Health Association held its eighteenth annual meeting at Charleston, S. C., December 15th to 19th; the Eighth Congress of Russian Naturalists and Physicians was held in St. Petersburg on January 9th to 11th; the First National Assembly of Japanese Physicians was held at Tokio early in April; the Seventh Italian Surgical Congress was held at Florence, March 30th to April 2d; the German Surgical Congress held its nineteenth annual meeting at Berlin on April 9th to 11th; the Ninth German Congress of Internal Medicine was held in Vienna, April 15th to 18th; the fifty-eighth annual meeting of the British Medical Association was held in Birmingham, July 29th to 31st, and August 1st; the first annual Congress of Psychological Medicine was held at Rouen on August 4th; the Congress of the French Association for the Advancement of the Sciences, was held at Limoges from August 7th to 14th; the Third International Congress on Alcohol was held in Christiania, September 3d to 5th.

LECTURES AND REPORTS.

The second report of the "Hyderabad Chloroform Commission," of which Dr. Lauder Brunton of London was president, was made in January; the Harveian Oration on "The Conditions of the Pulmonary Circulation" was delivered at the Royal College of Physi-

cians, on October 18th, by James Andrew, M.D., F.R.C.P.; the Milroy Lectures on "The Etiology and Prevention of Phthisis" were delivered before the Royal College of Physicians of London, by Arthur Ransome, M.D., F.R.S.; the Goulstonian Lectures on "Some Cerebral Lesions" were delivered before the same Society by G. Newton Pitt, M.D., F.R.C.P.; the Lumleian Lectures on "Convulsive Seizures" were delivered before the same society by J. Hughlings Jackson, M.D., F.R.C.P., LL.D., F.R.S.; the Croonian Lectures on "Cerebral Localization" were delivered before the same society by David Ferrier, M.D., LL.D., F.R.S.; the Bradshawe Lecture on the "Morbid Anatomy of Diabetes" was delivered before the same society by Robert Launby, M.D., F.R.C.P.; the Harveian Lectures on "Painful Menstruation" were delivered before the Harveian Society by F. H. Champneys, M.D., F.R.C.P.L.; the Cavendish Lecture on "Unrecognized Lesions of the Labyrinth," was delivered before the West London Medico-Chirurgical Society, by Alexander Ogston, M.D., C.M.; the first Shattuck Lecture was delivered before the Massachusetts Medical Society by George B. Shattuck, M.D., on "Influenza in Massachusetts"; the Middleton-Goldsmith Lecture was delivered before the New York Pathological Society by William Pepper, M.D., on "Hepatic Fever."

NECROLOGY.—FOREIGN.

Prof. S. Botkin, physician to the Czar, professor of clinical medicine, St. Petersburg, died December 24, 1889, aged fifty-seven.

Dr. Benedict Schulz, the first Austrian physician to place electrotherapy upon a scientific basis, died January 5, 1890, aged seventy.

Dr. Karl Westphal, professor extraordinary and medical director of the department for mental and nervous disease at the Charité Hospital, Berlin, died January 7, aged fifty-seven.

Dr. Anton Friedrich von Trötsch, professor of ear diseases in University of Würzburg, died January 9.

Victor Gautier, M.D., who is claimed by his countrymen as a precursor of Lister in antisepic surgery, died at Geneva, January 11, aged sixty-six.

M. Daniel Mollière, M.D., of Lyons, surgeon-major of the Hotel Dieu, died January 19, aged forty-one.

Sir William Gull, Bart., M.D., F.R.C.P., etc., Fulanian professor of physiology, physician and lecturer at Guy's Hospital, medical adviser of the royal family, died January 29, aged seventy-four.

Eduard von Wahl, M.D., professor of surgery at the University of Dorpat, died February 1, aged fifty-seven.

Alexander Shaw, F.R.C.S., surgeon to the Middlesex Hospital London, died February 5, aged eighty-six.

Dr. Otto Becker, professor of diseases of the eye at the University of Heidelberg, died February 7, aged sixty-two.

Marcellano Gómez Panco, M.D., one of the leading

surgeons of Spain, died at Madrid, February 6, aged fifty-five.

Prof. Marino Turchi, Dean of the University of Naples, died March 3, aged eighty-two.

Dr. Ulysse Trélat, professor of clinical surgery in the Charité Hospital, member of the Paris Academy of Medicine, died March 28, aged sixty-two.

Victor Besson, M.D., professor of pathology, St. Petersburg, died April 15, aged sixty-five.

Alessandro Tafani, M.D., professor of anatomy, Florence, died April 20, aged forty.

Robert McCormick, F.R.C.S., R.N., well-known arctic explorer, aged ninety.

William Kitchen Parker, M.R.C.S., F.R.S., etc., Hunterian professor of comparative anatomy, died at Cardiff on July 3, aged sixty-seven.

James Matthews Duncan, M.D., F.R.S., obstetric physician and lecturer on midwifery at St. Bartholomew's Hospital, London, died September 1, aged sixty-four.

Professor Gavarret, president of the Academy of Medicine, Paris, professor of medical physics at the Paris Faculty of Medicine, died September 2, aged eighty-one.

Charles Handfield Jones, M.B., F.R.C.P., F.R.S., Lumleian lecturer, physician to St. Mary's Hospital, etc., died September 30, aged seventy-one.

Ernest Hardy, M.D., head of the Chemical Laboratory of the Academy of Medicine in Paris, aged sixty-three.

Wenzel Gruber, professor of anatomy for nearly forty years at St. Petersburg, died in Vienna, in October, aged seventy-six.

Dr. Gustave Monod, sometime professor in the Faculté de Médecine, Paris, died on October 16, aged eighty-six.

Alexander Boggs, M.D., M.R.C.S. senior member of the English Medical Colony in Paris, and correspondent of several medical journals, died in October, aged sixty-seven.

Johann Nepomuck von Nussbaum, professor of surgery in the University of Munich, surgeon-general of the Bavarian army, died October 31, aged sixty-one.

Albert Vogel, formerly professor of diseases of children at the University of Dorpat, died in Munich November 9, aged sixty-four.

NECROLOGY.—UNITED STATES.

James H. Hutchinson, M.D., vice-president of the College of Physicians, Philadelphia, visiting physician to the Pennsylvania and Children's Hospital, died December 27, 1889, aged fifty-five.

Lewis Hall Sayre, M.D., assistant professor of orthopedic surgery at the Bellevue Hospital Medical College, died January 2, 1890, aged thirty-nine.

Charles S. Wood, M.D., president of the New York County Medical Association, died in February, aged sixty-five.

John W. Jackson, M.D., president of the Faculty of the University Medical College of Kansas City,

chief surgeon of the Missouri, Pacific and Wabash railroads, died March 13, aged fifty-six.

John P. Davidson, M.D., chairman of the board of yellow fever experts, died in New Orleans, March 30, aged eighty-two.

Henry H. Smith, M.D., professor of surgery in the University of Pennsylvania, distinguished army surgeon, died April 11, aged seventy-five.

William H. Byford, M.D., professor of obstetrics and gynaecology at the Rush Medical College, Chicago, died May 22, aged seventy-three.

Joseph W. Howe, M.D., surgeon in several New York hospitals, died on his way to the International Medical Congress, at sea, June 7, aged forty-seven.

Joseph P. Ross, M.D., for over twenty years professor of clinical medicine at the Rush Medical College, died June 25, aged sixty-two.

Charles L. Allen, M.D., secretary of the Vermont State board of health, died July 2, aged seventy.

R. C. Ward, M.D., professor of physiology in the Southern Medical College, Atlanta, died July 20.

J. A. Allen, M.D., dean of Rush Medical College, and for twenty-five years chief surgeon of the Chicago, Burlington and Quincy Railroad, died August 15, aged sixty-five.

Proctor Thayer, M.D., professor of surgery in the Western Reserve Medical College, Cleveland, O., noted army surgeon during the war, died October 1, aged sixty-seven.

Montross A. Pallen, M.D., formerly professor in the University of the City of New York, and St. Louis Medical College, notorious confederate surgeon during the war, died October 1, aged fifty-one.

Henry J. Bigelow, M.D., LL.D., professor of surgery at the Harvard Medical School, emeritus; surgeon to the Massachusetts General Hospital; discoverer of the Y-ligament of the hip, and of the operation of litholapaxy; died October 30, aged seventy-two.

Richard J. Lewis, M.D., formerly surgeon of the Pennsylvania and Jefferson Medical College Hospitals and of the Polyclinic, died November 12, aged sixty-three.

Jedediah H. Baxter, M.D., Surgeon-General of the United States Army, died December 4, aged fifty-three.

NECROLOGY OF MASSACHUSETTS MEDICAL SOCIETY.

Benjamin Fearing, M.D., of Wareham, died December 26, 1889, aged sixty-five.

James Griswold Shannon, M.D., of Rutland, died December 29, 1889, aged forty-six.

Arthur Quinn Phelan, M.D., of Lowell, died January 7, 1890, aged forty-two.

Francis Frederick Brown, M.D., of Reading, died January 13, aged fifty-five.

William Michael Hoar, M.D., of Lowell, died January 18, aged forty.

William Adams Winn, M.D., of Arlington, died January 19, aged forty-one.

James Emerson, M.D., of Gardner, died January 21, aged sixty-two.

James Porter Lynde, M.D., of Athol, died January 21, aged sixty-two.

George Henry Nichols, M.D., of Cambridge, died February 5, aged seventy-five.

Josiah Trow, M.D., of Buckland, died February 15, aged seventy-three.

Frederick Lysander Burden, M.D., of Attleboro, died February 23, aged forty-two.

Benjamin Franklin Seabury, M.D., of Orleans, died February 26, aged eighty-two.

George Mumford Read, M.D., of Dorchester, died March 16, aged thirty-three.

Edward Henry Weston, M.D., of Somerville, died March 28, aged seventy.

John Crowell, M.D., of Haverhill, died April 28, aged sixty-six.

Edward Evans Denniston, M.D., of Northampton, died May 10, aged eighty-seven.

Albert Sylvester Tobien, M.D., of Templeton, died May 10, aged forty-five.

Arthur Henry Wilson, M.D., of South Boston, died May 11, aged fifty one.

Bradford Leonard Wales, M.D., of Randolph, died May 13, aged eighty-six.

Perley Eben Goodhue, M.D., of Haverhill, died May 19, aged thirty-one.

John Henry Gilman, M.D., of Lowell, died June 11, aged fifty-four.

Jesse Walker Snow, M.D., of Somerville, died June 12, aged sixty-nine.

William Dandridge Peck, M.D., of Sterling, died June 29, aged seventy-seven.

Willard Everett Smith, M.D., of Boston, died July 14, aged thirty-four.

Daniel Waterhouse Niles, M.D., of Worcester, died July 17, aged sixty-three.

John Nelson Borland, M.D., of Boston, died August 10, aged sixty-two.

Herman Elvers Davidson, M.D., of Boston, died August 10, aged seventy-five.

Thomas Thurston Griggs, M.D., of Grafton, died August 11, aged seventy-two.

Moses David Church, M.D., of Cambridgeport, died August 25, aged forty-five.

Daniel Homer Batchelder, M.D., of Danversport, died September 4, aged seventy-nine.

Winthrop Flint Stevens, M.D., of Stoneham, died September 5, aged forty-two.

Joseph Murphy, M.D., of Taunton, died September 15, aged seventy-two.

John Cauldwell Sharp, M.D., of Boston, died September 26.

Charles Lyman Hubbell, M.D., of Williamstown, died October 7.

Jerome Wilmarth, M.D., of Milford, died October 7, aged fifty-nine.

Israel Houston Taylor, M.D., of Amherst, died October 16, aged sixty-seven.

Charles Edward Spring, M.D., of Holliston, died October 25, aged forty-eight.

Henry Jacob Bigelow, M.D., of Boston, died October 30, aged seventy-two.

Jubal Converse Gleason, M.D., of Rockland, died November 1, aged fifty-two.

Thaddeus Kingsley DeWolf, M.D., of Chester Centre, died November 4, aged eighty-nine.

Orlando Witherspoon Doe, M.D., of Boston, died December 10, aged forty-seven.

We are sorry to note that the average age this year of the deceased members of the Massachusetts Medical Society is only a little over sixty years, being less by eight years than in 1889.

MEDICAL NOTES.

— The President has recently nominated Colonel Charles Sutherland, M.D., senior medical officer, for the office of surgeon-general of the army, in place of Dr. J. H. Baxter, deceased. The number of petitions for the appointment of Dr. J. S. Billings was remarkably large, as might be expected by all who are familiar with his particular fitness for the position.

— Dr. Henry H. Hunt, of Portland, has resigned the chair of physiology in Bowdoin College. Dr. Charles D. Smith, of Portland, has been chosen to give the course of lectures in this branch for the next term. Dr. Smith, who is a member of the State Board of Health of Maine, gave the course on public hygiene, in the college this year, and his work was so satisfactory no doubt is felt of his success in this new field.

— An amusing instance of the kind of paternal anxiety for the public welfare which occasionally arises in the breasts of our national legislators is seen in a recent proposition of Mr. Platt, of Connecticut, to appropriate \$10,000 to enable the President to take action to obtain from the German Government a supply of the remedy discovered by Dr. Koch and the formula for its manufacture.

— The police authorities of Berlin have notified all unlicensed sanatoriums, hotels, etc., that consumptives and other patients suffering from infectious diseases, who may be stopping at such places, must depart within eight days, or the places will be closed. This action, it is supposed, will affect private clinics.

— A letter received by us from Berlin, under date of December 9th, states that there were at that time 6,000 unanswered applications on file for Koch's fluid.

— Before the recent introduction of aniline colors as antiseptics, one could often tell by their various odors what antiseptic substances a surgeon preferred; but now the hues that adorn his hands give him away. Steady elderly gentlemen may be content with a monochromatic dressing; while younger men, of more aesthetic tastes, will prefer substances more cunningly mingled, so as to produce the general effect of the patch-work quilt of our aunts and the coat of Joseph.

— A board of medical officers appointed to consider the question of disinfectants for quarantine and hos-

pital purposes have reported to the Marine-Hospital Bureau that disinfection by steam heat at 100° C. should be applied when practicable to all clothing, bedding, and textile fabrics, in such a manner as to cause a current of steam to pass through the articles, so that the same temperature is maintained for a period of not less than two hours. Solutions of mercuric chloride should be made by mixing mercuric chloride, one part; hydrochloric acid, 15 parts; water, 500 parts. This diluted one-half gives the weaker solution. The strong solution is to be used principally in the treatment of the holds, decks, and water-closets of vessels. The weaker solution (1-1000) is used for the disinfection of those articles of clothing and other fabrics which cannot be subjected to steam heat. Sulphur dioxide should be used as an auxiliary in the disinfection of the hold, cargo, and cabins, in strength of not less than 10 per cent., for 36 hours. Potass. permanganate, chlorine, bromine iodine, peroxide of hydrogen and lime, in addition to their germicidal powers, are reliable as deodorizers.

— As a theatrical performance the following is unique. The description comes from a daily paper of a city in Nebraska. "Last evening the large attendance at the People's Theatre, in addition to the usual entertainment given by the great German Polyclinic doctors, were witnesses of several difficult surgical operations that were undertaken and most successfully accomplished in full view of the packed audience, including a number of Omaha's leading physicians. They were pronounced by those who know to have been most skilfully and scientifically handled. The first case was a large tumor removed from the right cheek of William Villiers of the Millard Hotel billiard-room. One of the doctors of this staff, conducted this operation, and it was eminently successful; and the result will be, William Villiers before long will be all right. Another operation requiring great skill was relieving the little eight-year-old son of F. M. Kiger of strabismus (or cross-eyes). Cases of this kind require the greatest of care and experience, and was most satisfactory evidence of what these doctors can do. These entertainments are most instructive and pleasing. Nothing is done to which the most fastidious can take exception, ladies being always especially pleased. These notable physicians can be consulted at their office in the Barker Building. Operations and entertainment each evening at 8 p. m., at the People's Theatre. Admission free to all."

NEW YORK.

— New York physicians are arriving almost daily from Berlin now, and in consequence there is an abundance of Koch's fluid for use in the various hospitals. The first injections were made at Bellevue Hospital on December 19th by Dr. Alfred L. Loomis with material brought by his son, Dr. H. P. Loomis, who arrived from Europe the day previous. On the same date Dr. J. H. Linsley gave a report of his observations in Berlin at the Post-Graduate Medical College. Thus far, one death has been reported after

injection, but it was in the case of a child at the New York Foundling Asylum, who was in an advanced stage of tubercular meningitis, and it is not believed that the treatment had any effect in hastening the fatal termination.

— At a meeting of the Section on Theory and Practice of the Academy of Medicine held December 16th, Dr. J. West Roosevelt read a paper on the anatomy of the lungs illustrated by some very fine corrosive specimens, and, in the course of it he alluded to some points of special interest in a surgical aspect, in view of the fact that it seems probable that in the near future certain new departures in the surgery of the lungs are likely to be made. On December 17th, a dispatch was received from Berlin stating that Professor Sonnenburg has commenced to apply surgical treatment to patients suffering from cavities in the lungs, three operations, at each of which Professor Koch was present, having already been performed by him.

— The Board of Estimate and Apportionment has allotted the sum of \$404,400 for the expenses of the Health Department for the ensuing year.

— On October 1st the number of insane poor still remaining in the various county poor-houses and asylums amounted to 2,050. Since then 309 have been

removed, by order of the State Commission in Lunacy, to the State hospitals, and it is expected that by October 1, 1891, not more than 1,200 will be left to be provided for by the State institutions.

— Succi completed his fast of forty-five days at 8 o'clock on the evening of December 20th. The final medical examination was made at 4 o'clock in the afternoon, and showed his weight to be 104½ pounds (weight on first day 147½ pounds); temperature normal; pulse, 62; respiration, 90; dynamometer, 44; spirometer, not taken; general condition weak; tongue clear, moist and steady. Urinary analysis, eight ounces in twenty-four hours; specific gravity, 1.022; reaction acid, clear. Water drunk during the day, natural, seven ounces; alkaline, 20 ounces; purgative, four ounces. During the forty-five days the faster took 291 ounces of Croton water, 799 ounces of mineral waters, and 64 ounces of ice. He also took 710 drops of his elixir, which is said to be composed of morphia, cannabis indica, chloroform, sulphuric ether and alcohol. On some of the forty-five days this was omitted. During the last few days he had a hard struggle, and there can be little question that any prolongation of the fast beyond the forty-five days, would have proved fatal.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 13, 1890.

CITIES.	Estimated Population for 1890.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.
New York	1,622,237	704	240	15.26	20.16	5.88	1.40	1.54
Chicago	1,160,000	407	187	18.24	10.68	10.08	1.44	3.13
Philadelphia	1,061,777	408	125	15.00	8.50	8.00	2.50	3.00
Baltimore	585,867	339	130	19.72	18.37	10.15	4.06	1.45
St. Louis	550,000	162	54	9.10	14.55	6.50	.85	—
Boston	500,343	169	53	15.93	12.98	10.44	.59	2.36
Cincinnati	446,507	203	54	12.25	18.62	5.88	.98	1.98
New Orleans	325,000	100	45	14.00	15.00	12.00	—	2.00
Pittsburgh	260,000	—	—	—	—	—	—	—
Milwaukee	240,000	—	—	—	—	—	—	—
Washington	230,000	103	25	11.64	13.58	5.82	—	5.82
Nashville	68,613	24	6	16.66	15.66	4.16	—	—
Charleston	60,145	28	9	12.80	8.92	—	—	—
Portland	42,000	10	2	10.00	10.00	—	—	—
Worcester	84,553	24	5	—	12.48	—	—	—
Wellesley	71,005	43	14	20.97	18.64	—	—	16.31
Fall River	74,351	28	6	10.71	17.85	—	—	—
Cambridge	61,837	21	4	4.76	19.04	4.76	—	—
Lynn	53,684	17	4	5.88	11.76	5.88	—	—
Lawrence	44,459	18	7	22.22	5.55	—	—	11.11
Springfield	44,164	15	4	6.66	13.33	—	—	—
New Bedford	40,705	5	0	—	—	—	—	—
Somerville	40,117	—	—	—	—	—	—	—
Holyoke	35,228	—	—	—	—	—	—	—
Salem	30,735	6	0	—	65.66	—	—	—
Chester	27,850	7	1	28.56	26.56	14.28	—	14.28
Haverhill	27,322	6	1	16.66	—	—	—	—
Brockton	27,278	—	—	—	—	—	—	—
Newton	24,249	12	3	16.66	16.66	—	—	—
Malden	24,375	4	1	50.00	—	25.00	—	25.00
Fitchburg	22,984	4	1	25.00	—	—	25.00	—
Gloucester	22,007	3	2	—	—	—	—	—
Waltham	21,262	4	2	—	—	—	—	—
Pittsfield	18,922	4	1	—	—	—	—	—
Quincy	17,252	5	5	40.00	—	20.00	—	20.00
Northampton	16,711	2	0	—	—	—	—	—
Newburyport	14,961	—	—	—	—	—	—	—
Brookline	13,914	8	1	—	—	—	—	—
	12,076	—	—	—	—	—	—	—

Deaths reported 2,880: under five years of age 992; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases whooping-cough, croupyseptis and fevers) 412, acute lung diseases 476, consumption 369, diphtheria and croup 213, typhoid fever 69, scarlet fever 45, diarrhoeal diseases 33, measles 28, whooping-cough 12, cerebro-spinal meningitis 13, malarial fever 12, croupyseptis 12, enteritis 5.

From differential disease New York 9, Chicago, Brooklyn, St. Louis and Fall River 3 each, Philadelphia and Boston 2 each, Baltimore, Nashville, Charleston, Lawrence and Taunton, 1 each. From measles New York 15, Chicago 5, Brooklyn 4, Philadelphia, Boston, Charleston and Springfield 1 each. From whooping-cough New York 7, Philadelphia 3, Chicago, Brooklyn and Baltimore 2 each. From cerebro-spinal meningitis New York 4, Chicago and Boston 2 each, Nashville, Portland, Lowell, Lawrence and Taunton 1 each. From malarial fever,

New York 5, Brooklyn 4, Baltimore 2, Nashville and Charleston 1 each. From croupyseptis New York 6, Chicago 3, Brooklyn, Lowell and Haverhill 1 each. From puerperal fever Boston 2, Baltimore 1.

In the twenty-eight greater towns of England and Wales with an estimated population of 9,715,559, for the week ending November 29th, the death-rate was 19.0. Deaths reported 3,632: acute diseases of the respiratory organs (London) 375, measles 172, scarlet fever 64, diphtheria 58, diarrhoea 51, whooping-cough 42, fever 41.

The death-rates ranged from 15.0 in Derby to 30.2 in Manchester, Birmingham 18.4, Bradford 16.3, Hull 18.8, Leeds 19.2, Leicester 19.9, Liverpool 18.7, London 18.0, Nottingham 16.6, Portsmouth 20.4, Sheffield 19.4, Sunderland 16.8.

In Edinburgh 15.4, Glasgow 24.8, Dublin 24.4.

The meteorological record for the week ending Dec. 13, in Boston, was as follows, according to observations furnished by Sergeant J. W. Smith, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.*			Rainfall.	
		Daily Mean.		Maximum.	Minimum.	8.00 A. M.		8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
	Saturday, Dec. 6, 1890.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	8.00 A. M.	8.00 P. M.	Daily Mean.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.	8.00 A. M.	8.00 P. M.		
Sunday, 7	30.08	25.0	33.0	18.0	88	85	75.0	N.W.	N.W.	12	15	0.	C.					
Monday, 8	30.24	18.0	24.0	12.0	83	68	75.0	N.W.	N.W.	12	5	0.	C.					
Tuesday, 9	29.86	29.0	30.0	18.0	79	61	75.0	N.W.	W.	7	7	0.	C.					
Wednesday, 10	29.58	32.0	39.0	25.0	78	73	75.0	W.	S.W.	7	10	0.	O.					
Thursday, 11	29.62	38.0	42.0	33.0	73	60	67.0	W.	S.W.	13	5	0.	O.					
Friday, 12	29.71	25.0	37.0	12.0	85	81	83.0	N.W.	N.W.	17	21	0.	C.			T.		
Saturday, 13	30.19	14.0	25.0	4.0	77	62	69.0	N.W.	W.	12	12	0.	O.					
Mean for Week.																		

* O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow. † Indicates trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 13, 1890, TO DECEMBER 19, 1890.

First Lieutenant THOMAS U. RAYMOND, assistant surgeon, having been ordered to temporary duty at Vancouver Barracks, Washington, by the commanding general Department of Columbia, is assigned to duty at that post, and relieved from further duty at Fort Sherman, Idaho. S. O. 294, A. G. O., Washington, D. C., December 17, 1890.

Paragraph 17, of Special Orders, No. 287, December 9, 1890, from this office, relating to Captain MARCUS E. TAYLOR, assistant surgeon, is amended so as to direct him to report to the commanding officer, Vancouver Barracks, Washington, for duty as post surgeon, relieving Colonel BERNARD D. IRWIN, surgeon, of that duty. Captain RUDOLPH G. EBERT, assistant surgeon, will be relieved from duty at Vancouver Barracks, Washington, upon the arrival of Captain Taylor, and will proceed to Fort Hancock, A. T., and report in person to the commanding officer of that post for duty. S. O.—Par. 1, A. G. O., Washington, D. C., December 17, 1890.

By direction of the Secretary of War the extension of leave of absence granted Major STEPHENSON G. COVENDEN, surgeon, in Special Orders, No. 263, November 10, 1890, from this office, is further extended ten days on account of sickness. Par. 4, S. O. 293, A. G. O., December 16, 1890.

By direction of the Secretary of War, Captain FRANCIS J. IVES, assistant surgeon, now on leave of absence, will proceed to South Dakota, Rapid City, and report in person to Colonel EUGENE A. CARE, 6th Cavalry for duty with troops in the field, relieving First Lieutenant WILLIAM B. BANISTER, assistant surgeon, and reporting also by letter to the commanding general Department of Dakota. Par. 18, S. O. 299, A. G. O., Washington, D. C., December 11, 1890.

Leave of absence for fourteen days, to take effect on or about December 20, 1890, is granted Captain WILLIAM STEPHENSON, assistant surgeon, Par. 18, S. O. 291, A. G. O., Washington, D. C., December 13, 1890.

By direction of the Secretary of War, Captain WALTER REED, assistant surgeon, now on duty at Baltimore, Maryland, will remain without delay to commanding officer, Fort Keogh, Montana, for temporary duty at that station, and by letter to the commanding general Department of Dakota, S. O. 291, Headquarters of the Army, A. G. O., Washington, D. C., December 13, 1890.

By direction of the Secretary of War, Captain WILLIAM O. OWEN, Jr., assistant surgeon, now on leave of absence, will re-

port in person without delay to Colonel EUGENE A. CARE, 6th Cavalry, at Rapid City, South Dakota, for duty with troops in the field, and by letter to the commanding general Department of Dakota. Par. 17, S. O. 291, A. G. O., Washington, D. C., December 13, 1890.

By direction of the Secretary of War, Major CHARLES SMART, surgeon, is detailed as a delegate to represent the Medical Department of the Army, at the annual meeting of the American Public Health Association, to be held at Charleston, South Carolina, December 16 to 19, 1890. He will proceed to Charleston, accordingly, and upon the final adjournment of the Association, return to his station in this city. Par. 2, S. O. 290, A. G. O., Washington, D. C., December 12, 1890.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING DECEMBER 20, 1890.

SHELDON G. EVANS, assistant surgeon, ordered to Naval Academy, Annapolis, Md.

CORBIN J. DECKER, passed assistant surgeon, detached from Naval Academy, and ordered to Naval Hospital, Philadelphia, Pa.

BOOKS AND PAMPHLETS.

Transactions of the American Dermatological Association, Fourteenth Annual Meeting. 1890.

The Abuse of a Great Charity. By George M. Gould, M.D., Ophthalmologist to the Philadelphia Hospital. Reprint. 1890.

Modern Treatment of Headaches by Allan McLane Hamilton, M.D., Physician's Leisure Library, No. 6. Detroit: Geo. S. Davis. 1890.

Impenforate Auditory Canals. By Seth S. Bishop, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, Chicago, Ill. Reprint. 1890.

Handbook of Dr. Koch's Treatment of Tubercular Disease, by Edward F. Grinn, M.R.C.S., L.R.C.P., and Walter D. Severn, A.M., Roy. Coll. Sci. London: J. & A. Churchill. 1890.

A Woman in the Case. An Address delivered at the Annual Commencement of the National Medical College. By Elliott Coues, A.M., M.D., Ph.D. Boston: The Occult Publishing Company. 1890.

